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ABSTRACT

By means of a literature search and data from the California Coalition for Sex Equity in Education (CCSEE) questionnaire (the Title IX Implementation Assessment Instrument), this report presents the findings a 2-year (1978-80) study of sex bias and Title IX compliance in California at 23 experimental and 13 control school districts. The report involves fundamental questions of evaluation, measurement, and other processes and prior factors concerning Title IX compliance. Stratification variables were socioeconomic status and ethnicity. Interview data provided the dependent variable in the study. Measurement control variables included demographic, fiscal, legal, and organizational variables. The report concludes: (1) that federal programs to reduce sex bias in schools produce many of the intended results; (2) that institutional change regarding Title IX can be measured by a valid and reliable quantified/scaling procedure; and (3) that among the factors affecting the success of compliance efforts are demographic factors (such as size and location of the school district) and the degree of involvement of the superintendent or assistant superintendent. Numerous tables and figures provide the CCSEE Title IX implementation instrument and pre- and posttreatment raw frequencies of response and posttreatment scale-item correlations. (PB)

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REFORM OF REACTION? AN EXPERIMENTAL ANALYSIS OF THE EFFECTIVENESS OF "POWER-BASED" STRATEGIES FOR ELIMINATING SEX BIAS IN CALIFORNIA SCHOOLS

A REPORT FROM:

THE CALIFORNIA COALITION FOR SEX EQUITY IN EDUCATION

BY: SCOTT C. McDONALD

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AUGUST 1980

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The California Coalition for Sex Equity in Education is a cooperative venture on the part of four public agencies:

PROJECT EQUITY, The Sex Desegregation Assistance Center for Region IX, based at California State University, Fullerton

PROJECT SEE (Sex Equity in Education), Title IX Technical Assistance Center of the California State Department of Education

ACSA - Association of California School Administrators, Burlingame

CSBA - California School Boards Association, Sacramento

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The project was funded and supported by

THE WOMEN'S EDUCATIONAL EQUITY ACT PROGRAMS

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1980

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This report has been developed as the final technical report of a grant received by the California Coalition for Sex Equity in Education. It is being submitted to the WEEA Publishing Center for further review, comment and possible dissemination. Additional information about the contents of the report may be obtained by contacting one of the following CCSEE Co-Directors.

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This document reports the findings of a two-year long study of sex bias and Title IX compliance in California schools conducted by the California Coalition for Sex Equity in Education. As with any major research effort, numerous people have contributed to the final product. In this instance, so many, both inside and outside of the California school system, have helped to gather and refine data that it is virtually impossible to recount our thanks to them all. Nevertheless certain acknowledgements are in order.

Scott McDonald conceived of this research design as part of a graduate course in the Harvard Department of Sociology; the design was refined further with the help of discussions with the three Co-Directors of CCSEE, Barb Landers, Lee Mahon, and Barbara Peterson. Scott also drafted the CCSEE Title IX Assessment Instrument, selected the sample, developed the measures of the control variables, analyzed the data and wrote this report. Elaine Waxer served as Research Assistant to the project; in this capacity, she managed the processing and cleaning of the raw data, took responsibility for most of the computer work, set up the scalogram analysis, made numerous helpful suggestions regarding data analysis, and assisted in the editing of this report. Pat Romero and Nancy Gemar helped to revise the CCSEE Title IX Assessment Instrument during the early phases of this study; their contribution was particularly helpful in the development of the "probing questions" contained in that instrument. Lee Mahon spent endless hours listening to tape recorded interviews with school district staffs, comparing (and validating) the information collected in those interviews, and making the Likert ratings on which the scale scores discussed herein were based. Barbara Peterson, Barb Landers, and Lee Mahon supervised the administration of the project, coordinated the

provision of all services to the project districts, and served as the forum to which Scott McDonald could bring all design and measurement issues.

Pat Romero, Barbara Peterson, Lee Mahon, and Elaine Waxer took responsibility for the training of the interviews. The interviews with district staff were conducted by Jackie Branch, Margery Burke, William Callison, Ceci Caswell, Nancy Gemar, Dolores Grayson, Andrew Hernandez, Jean Hubert, Pauline Johnston, Jan Klevin, Eileen Krashauskas, Noel Krenkel, Joe Luzzi, Tom Mahon, Betty McNamara, Melissa Miller, Phoebe Oljeto, John Paizis, Suzanne Paizis, Ruth Pritchard, John Queiser , Ed Quinn, Susan Shargel, Bonnie Swann, Frank Taylor, and Mary Thorpe.

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Valerie Hooper served as Administrative Assistant to the project; in this capacity, she coordinated the efforts of the three Co-Directors, scheduled and recorded meetings, made detailed conference arrangements, and assisted in the project planning. Shirley Nichols served as accountant and fiscal manager for the project. Nancy Mahon acted as secretary for the Bay Area office; Jan Klevin performed the same duties for the Sacramento area office. Liz Niitani suffered through various revisions of this report as a cheerful and peerless typist.

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PREFACE

This report has been prepared by the California Coalition for Sex Equity in Education (CCSEE - III) as the product of a two-year research project made possible by a large grant contract award (#G007802006) made by the Women's Educational Equity Act (WEEA) Program for the years 1979-80. This report is designed to:

- Provide an overview of the intent of the research project;
- Present the principal issues addressed and the rationale for their inclusion;
- Outline the approach and design of the research;
- Provide a review of pertinent literature;
- Outline the methodology applied and the results derived;
- Demonstrate how the validity and efficacy of the measure of dependent variables were tested;
- Present statistical displays of the data;
- Discuss the causal issues raised by the results;
- Summarize the conclusions to be drawn from the research and list additional areas of needed study; and
- Provide supplemental documentation as needed.

The CCSEE was formed in 1976 in order to coordinate the efforts of some of the major organizations helping educational agencies achieve sex equity in policies, practices, and programs. The original group was comprised of three agencies. These included ACSA (Association of California School Administrators), Project Equity (a Title IV Civil Rights Act Training Institute which has since become the Region IX SDAC - Sex Desegregation Assistance Center), and Project SEE (the California State Department of Education's Office for Sex Equity in Education.)

The CCSEE fashioned long-range plans, to be executed in phases, and then sought fiscal resources to:

- Develop a cadre of trained professionals who could help various target populations work toward the accomplishment of sex equity in administrative, counseling and classroom procedures, athletics, vocational education, and in the community;
- Produce needed materials for the trainers' and trainees' use in their efforts;

- Apply meaningful monitoring practices, follow-up interventions, and measure the progress made; and
- Develop a dissemination model to ensure positive outreach throughout California and the nation.

Thus, CCSEE I in 1976 earned a small WEEA subcontract from the CCSSO (Council of Chief State School Officers) and successfully implemented the sex equity model developed by the National Resource Center for Sex Equity by providing a three-day training conference which was attended by more than five-hundred educators representing all of the desired target groups.

CCSEE-II, in 1977, won a WEEA small grant to further train selected successful Title IX leaders/advocates and to develop a strategies notebook worthy of national dissemination. This resulted in a two-day conference for one-hundred fifty professionals and the development of TOWARD EQUITY: EFFECTIVE TITLE IX STRATEGIES K-POSTSECONDARY. Areas of focus at the conference and subsequently in the book included:

- the evolution of equity;
- strategies for building skills in making changes happen, networking and effective monitoring;
- a review of practical issues;
- the development of alternatives to overcome simple and complex areas of concern;
- suggested case studies of real issues and the possible resolution;
- a listing of human, print and non-print resources; and
- indicators for further consideration.

Copies of this publication are now available from the WEEA Publishing Center.

In 1978, CCSEE-III received a large grant from WEEA to conduct a two-year study to determine if the planned application of these and other resources to an identified power base in randomly selected LEAs (local education agencies) could make a noticeable difference in the compliance efforts of those districts.

The makeup of the CCSEE was expanded to include the CSBA (California School Boards Association) and each of the coalition groups brought to the are ever-growing set of materials, strategies and talents. Most notabhese were: an initial instrument for measuring basic Title IX cace developed by Scott C. McDonald of Project Equity, a process foite observation commentary visitations (OCV) developed by Barb Laind Project SEE, a catalogue of intervention strategies written by e Mahon, and a subsequent planning notebook developed by the CCSictors.

This reporicts the work accomplished and the results obtained during the ar effort. It focuses on compliance issues and clearly revhat districts which are alerted to the legal mandates, provided apate intervention strategies, and given encouragement to reconcils of noncompliance can and will accomplish the tasks required ifin conditions are evident or, conversely, certain constraints amt. Little or no effort was made to measure attitudinal changes or ch strategies prevalent in daily classroom behaviors. Once adequaearch is available in those areas, the connections between this study ose findings can be made to deliver an even more complete model for uionwide.

Thus, the Clan continues to reach fruition. Definite progress can be seen team of professional desegregation specialists who wish to ideissues, find alternatives, apply meaningful activities, and monitorively. Such are the avenues toward the achievement of any sociorm . . . such are the challenges of those who work to achieve sex in education.

Barbara Peterson
Barb Landers
Lee Mahon

September 1981

CHAPTER I

Introduction and Overview of Research Project

A. Background

For the past 30 years, women in the United States have increasingly taken jobs in the labor market, held important careers, and moved into societal slots previously regarded as "male preserves". For the most recent 15 years, this trend toward sex equity has found its voice in a resurgent feminism. Feminists have criticized the facile assumptions of male superiority: that men are inherently more logical (i.e., make better scientists, administrators, etc.) or inherently more dextrous and more capable at mechanical tasks (i.e., make better machinists, athletes, breadwinners, and so forth). While it is obvious that a large number of occupations are "sex-typed" (i.e., predominately held by members of one sex), the justice and rationality of this sex-typing has been subject to considerable dispute. The feminist critique argues that the sex-typed nature of the occupational structure does not stem from any inherent genetic or physiological gender differences, but rather is the result of socialization processes; it is held that these processes, fostered by schools, families, churches, media, and peer groups, lead children and young adults to develop sex-typed aspirations, to follow sex-typed courses of study, to acquire sex-typed skills, and eventually to fit compliantly into the sexual division of labor of which the occupational structure is only the most recent manifestation.

While many of these socialization agents (like families and peer groups) are so private or so ephemeral that they are effectively beyond the reach of most public policy measures, schools are clearly central public institutions--charged with the tasks of preparing young people for their future social and occupational roles, of guiding the formation of their aspirations, and of providing them with the rudimentary language, mathematical and social skills that secure them access to the wider world. Hence, schools became one of the central foci of feminist criticism. In response to this criticism and in recognition of the fact of the changing role of women in American society, Congress passed an amendment to the Education Act of 1972 which stated:

> No person in the United State shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program of activity receiving Federal financial assistance, or be so treated on the basis of sex under most education programs or activities receiving Federal assistance.

This simple amendment, known as Title IX, was intended to have wide implications for most public schools in the United States (the majority of which received some type of Federal financial assistance). In 1975, the Department of Health, Education, and Welfare spelled out the scope of these implications in their Title IX Implementing Regulations. The regulations stipulated that all educational agencies must investigate their own conduct, determine the degree of compliance or non-compliance in evidence, and then correct any and all areas of inequity. Each site was to conduct an investigation, develop a plan to bring about full compliance, and continue the activities as needed to ensure that no discrimination persisted. Initially, little or no help was offered to districts and universities by the federal government; it was assumed that the changes which were required to achieve "sex desegregation" could be accomplished by the agencies themselves.

In response to large numbers of requests for help in the sex desegregation process, and as a result of a landmark court decision that the development of a three-year plan to overcome the effects of apparent sex discrimination did indeed constitute a desegregation plan, the federal government decided that sex equity efforts qualified for Title IV Civil Rights Act monies previously appropriated only to help overcome the effects of race and national origin discrimination.

Thus in 1976, monies first became available to State Education Agencies (SEAs) and to training institutes (TIs) located at University settings. These agencies in turn were supposed to assist local education agencies (LEAs) in their Title IX compliance efforts. Beginning in 1978, monies were appropriated for the development of sex desegregation assistance centers (SDACs) and for grants to be awarded directly to those LEAs which wished to pursue a planned program of activities to overcome the problems caused by the sex desegregation process.

Concurrently, Congress established the Woman's Educational Equity Act Program (WEEAP) to provide for the development of materials, exemplary processes and programs, training models, media, and dissemination agencies, all of which were designed to enhance the efforts being made to achieve sex equity in education. Private foundations, affiliate organizations and educational agencies themselves also allocated funds and resources to eliminate discrimination in existing policies, practices and programs.

Thus, in the 1970's there emerged a national mandate to review, evaluate and change sex discriminatory school practices. In response, a vast network of specialists and an extensive reservoir of resources were developed and enlisted in the effort to uproot institutional sex bias in schools. The question remains: what was the impact of all these efforts to help schools, colleges and universities comply with federal mandates? The practical need to find a convincing answer to this question, as it relates to elementary and secondary schools, provided the inspiration and impetus for the CCSEE research reported here.

B. Fundamental Questions of this Research

1. What is the impact of planned interventions to reduce sex bias in diverse schools?

This, in effect, is the basic evaluation question with which we wrestle in this study: Are school districts actually helped in their efforts to comply with Title IX by involvement with Federally-funded intervention projects (like the "training institutes" and "assistance centers" described above)? The intervention projects provide in-service training for school personnel, offer technical assistance to school administrative personnel, facilitate a sharing of resources and experiences among pro-equity forces in districts in adjoining geographical areas, and advise districts on efficacious strategies for change. Do these efforts serve their intended purposes? In other words, do school districts who receive these services make a quicker, smoother, more complete transition to full compliance with Title IX than do their counterpart districts who do not receive services? Even if districts receiving the benefit of such services do, in fact, appear to make greater progress toward Title IX compliance, is this merely a result of the characteristics of districts who contract with intervention projects in the first place (i.e., Do only liberal, innovative districts get involved with equity advocacy projects?). We seek to discover the impact of the planned training and services net of the characteristics of the districts who receive them.

Beyond the simple question of whether or not the intervention projects make a " difference" to their client districts lie many more subtle questions.

Are all strategies equally advantageous, or are some more effective than others? Does technical assistance have a greater impact than inservice training, or is the reverse true? Is there a linear relationship between the level of assistance received by a district and the amount of progress made in Title IX compliance (i.e., Do districts who make maximum use of their involvement with the intervention project show a correspondingly higher level of progress in Title IX compliance, or is there a "threshold effect" beyond which additional services do not seem to affect compliance?). Although it is easier, especially given restrictions in sample size, to answer the simple (dichotomous) question of whether or not the provision of professional services from intervention projects matter at all, we shall, wherever possible, try to tease out clues to these more subtle questions.

2. Is a quantitative measure of Title IX compliance feasible, reliable and valid?

Obviously, the questions posed above can only be answered when we are able to detect the level of compliance with Title IX in a district and measure it accurately. In order to compare districts on their Title IX compliance, some common metric is necessary--- some procedure for "scoring" districts on their level of compliance. This problem represents the central measurement question addressed by this research.

Cast in slightly different terms, this research asks whether it is possible to scale districts on their Title IX compliance? If so, what are the properties of the scale? Is progress toward Title IX compliance continuous, cumulative, sequential, and logical--- such that Guttman scaling is possible? Or do districts adopt Title IX's provisions in a helter-skelter manner (such that levels of compliance are discrete rather than continuous)?

It is possible, of course, that some districts adapt to Title IX in a rational and continuous way, while others "leap" to states of compliance in a less deliberate way. If this is true, Guttman Scales might apply to the former but not to the latter. Does this difference in the process of change affect the quality or the depth of the change itself? In other words, are districts that make rational, sequential, well-planned changes any better off that those who simply rush into compliance in response to external pressure (or without much deliberation?)

Moreover, how thorough is the Title IX compliance, especially as measured by a scalable and scorable instrument? Is there a distinction between "paper" compliance and "real" compliance? Does "institutional" compliance have any real effect on the behavior of the individuals within those institutions? These are all difficult and important questions that lie at the heart of our efforts to validate a measure of Title IX compliance.

3. What other factors affect acceptance of Title IX?

As noted earlier, any credible claim that planned intervention from sex-desegregation units truly help school districts make a smooth and thorough transition to Title IX compliance must demonstrate that the greater levels of compliance exhibited by "client" districts are not merely an artifact of their prior characteristics (e.g., innovativeness, etc.). While this possibility can effectively be controlled by research design, it is nevertheless interesting and worthwhile to collect data on those "prior" district characteristics that might interact with acceptance of Title IX. Though measures of these "prior" characteristics are apt to be weaker than the measure of the dependent variable (our central concern) and though conclusions might be more tentative, the interaction of "prior" and "treatment" variables could prove to be among the most interesting findings of the study--especially for sex equity practioners themselves.

For example, to what extent do the demographic and organizational characteristics of school districts predict (1) their enthusiasm for involvement with sex desegregation projects and (2) their success in meeting the requirements Title IX? By "demographic characteristics" we mean factors such as (1) size of district; (2) wealth of district; (3) urbanness of district and (4) percentage of minority students. "Organizational characteristics" include such factors as the extent of district centralization, degree of autocratic administrative style, and so forth.

In a similar vein, to what extent do prior legal and political factors affect district involvement with sex desegregation projects and compliance with Title IX? What is the effect of community attitudes toward sex equity and toward Federal programs in schools? Do the differences in districts revenue reductions under Proposition 13 have a systematic effect on Title IX compliance? Are changes more apt to be spurred when districts are under complaint from the Office of Civil Rights?

Furthermore, what is the importance of the processes by which districts work toward Title IX compliance? District administrations usually adopt specific strategies for implementing Title IX in their districts; does the selection of a given strategy per se have clear implications for the outcome? Is the nature of the district's relationship to the intervention project important to the outcome? Does it matter whether (1) the district merely requests whatever services it wants or (2) the district relies entirely upon the intervention project to identify needs and prescribe treatments and strategies, or (3) services are negotiated between the district and the intervention projects? To what extent is prior involvement in sex desegregation projects important to district outcomes? Is technical assistance more effective in nudging districts toward Title IX compliance than is inservice training?

All of these questions--the evaluation question, the measurement question, and the questions about the processes and prior factors that influence the success of compliance efforts--inspired this research.

C. General Approach to Solution of These Questions

1. The Measurement Problem: Can Change Be Detected By a Scorable Scaling Procedure?

Early efforts to evaluate sex desegregation training and assistance projects had been frustrated by the absence of valid measures of institutional sex bias. Without measures of this sort, it has been impossible to compare the status of a given district before and after involvement with a sex desegregation project.[1] In 1977, one of the member agencies of the California Coalition for Sex Equtiy in Education, Project Equity, committed resources to the development of such a measure; however, it was impossible to perform a rigorous validation of the measure within the programmatic constraints of Project Equity. CCSEE's desire to analyze the impact of its own "power-based" intervention strategies fit nicely with the need to validate a scorable measure of change in school districts. The latter strategies, documented in *Towards Equity: Effective Title IX Strategies, K-Postsecondary*, emphasize the need to identify and enlist the support of the key actors in local districts who comprise the local "power base" of that district. The measurement and programmatic goals were wed in this study: the Title IX Implementation Assessment Instrument (initially developed by Project Equtiy) would be used to measure institutional change in school districts (and be tested for validity and reliability in the meantime) *and* the change captured by that instrument would serve as the dependent variable in the study of the effectiveness of the intervention strategies developed in earlier phases of CCSEE. Presumably, districts that had the benefit of the services and strategies offered by CCSEE would make greater gains in Title IX compliance (as measured by the scorable instrument).

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[1] For a thorough review and critique of this literature, see Scott C. McDonald, "Review of the Literature on Measurement of Gender Bias," paper presented at annual meeting of the American Educational Research Association, New York City, April 1977.

For reasons already noted, it was determined that the scope of this instrument would be institutional. It was agreed that it was technically, logistically, and financially impossible to monitor an adequate number of individual teachers (at sufficient intervals) to provide valid, reliable observational data on teacher behaviors. Rather, we assumed, on the basis of widespread experiences in those schools that had already achieved racial integration, that if one changes institutional practices (and provides proper staff development support), recalcitrant individual attitudes will eventually soften and modify. Furthermore, we assumed that institutions are more easily held accountable than are individuals. This premise is clearly accepted by the federal government's regulations for the implementation of Title IX--- regulations which hold school districts responsible for taking positive steps toward the eradication of gender bias. Hence, taking our cues directly from the legislation, we have made school districts the units of analysis for this measurement device.

Our second premise is that Title IX itself provides an adequate framework for the instrument's operational definitions of institutional gender bias. This premise, of course, begs several important research questions. It avoids the difficult questions about which human behaviors are functions of biological differences, cultural sex roles, or of various socialization processes. It does not attempt to identify differential socialization effects of schools, families, peer groups, media, churches, or other factors. Hence, the instrument is not intended to contribute to the theoretical literature on sex differences, per se. Rather, by taking Title IX's requirements as the basic framework for the instrument, we have assumed that a district's full compliance with the Title IX requirements indicates positive institutional steps to eradicate gender bias. Hence, the instrument is conceived as a measure of the intensity of institutional effort to comply with Title IX. The definitions of compliance with Title IX implicit in this instrument are consistent with the guidelines issued by the Office of Civil Rights of the Department of Health, Education, and Welfare.

In structure, the CCSEE Title IX Implementation Assessment Instrument is a polymorphous entity. In its basic structure it is an interview guide. Questions on the interview guide cover each specific provision of Title IX; each generic question is followed by a subset of probing questions to help interviewers draw out the most complete responses from districts regarding the range of their efforts to implement Title IX. However, the instrument is not merely an interview guide. Subsumed under each of the items of the interview guide is an ordinal scale of possible (or prototypical) compliance steps that districts would likely have taken to address the question posed by that interview item. As such, the scales are written to provide a statement of the ideal, logical subsequent steps a district would take to move from a state of non-compliance to a state of "affirmative action" beyond that required by the letter of the Title IX law. The various steps on each scale have been assigned arbitrary point values that reflect the level of compliance (i.e., the intensity of institutional effort to comply). This assignment of score points to the scale steps effectively upgrades the scales to the interval level of measurement. Hence, completion of the interview/scaling process yields something resembling a test score for the district on the degree of its complinace with Title IX.

In their content, the scales resemble Guttman scales in that the steps are cumulative and sequential; each progressive step assumes the completion of the preceding (presumably easier) steps. Each interview question of the instrument has its own unique corresponding scale. The specificity of the scales is intended to promote reliability among raters (i.e., to help assure that ratings of different raters have the same meanings.) There are some obvious problems with this approach. First and foremost, it assumes that ratings of different raters have the same meanings. It also assumes that districts behave in the logical sequential ways that evaluators like to imagine. We launched our study suspecting that this may not entirely be true; however, we preferred to test empirically the efficacy of Guttman scales rather than discard them out of hand.

The interview guide itself contains 40 items that cover the five substantive dimensions of Title IX. (Information on district preliminary compliance steps was collected in a telephone interview prior to the on-site interview). The five dimensions covered in the interview guide are:

(1) Access to Courses and Academic Programs
(2) Non-Academic School Activities, Services, and Programs (Treatment of Students)
(3) Physical Education
(4) Athletics
(5) Employment/Personnel Policies and Practices

Questions are both broad and specific; they are designed to encourage open and amiable discussion between interviewer and interviewees about the exact situation in each district. That is, each question is intended to lead into a general conversation about what the district has done to address the number of specific issues raised by Title IX. Thus, the instrument is not a structured interview guide, in the technical sense. Interviewers are to use the instrument as a guide to their discussion with district teams, as a reminder of points to cover; they are not to regard the interview guide as an ironclad set of inflexible questions. On the contrary, interviewers are encouraged to pursue leads, ask questions and restate the guide's questions until they are clearly understood by the interviewees and answered to satisfaction. The interview guide provides the interviewers with key words, prompting devices, probing questions, and concrete examples to facilitate explanation of each general question and to help interviewees recall any actions they may have taken in the area related to each issue.

The specificity of the interview guide items is congruent with the specificity of the Title IX regulations themselves. Certain sections of the Title IX regulations do not specify exact steps that districts must take to comply; rather they leave districts wide latitude of action and interpretation. We decided that open-ended general interview items were likely to solicit the best information about district activities in response to these sections of Title IX. Accordingly, the instrument includes some "general format" questions that demand that interviewers be especially sensitive to interviewee's nuances and cues; these questions also assign interviewers special responsibilities for securing sufficiently detailed responses about the specific status of the district on that point. An example of a "general format" question is:

> "What has the district done to ensure that it does not discriminate in the way that it provides student access to home economics courses?"

Typically, an interviewer asks the above question, writes the response, then probes further by asking how the district has investigated this aspect of its program, whether it has reviewed written descriptive material about home economics courses (course titles and descriptions, for instance) to identify gender bias in requirements or language, whether it has examined course enrollment data to identify gender disparities in course enrollment patterns, whether it has reviewed the home economics curriculum to determine that viable program and project options were available to the "nontraditional" gender (e.g., whether sewing classes make available patterns for men's clothing, for ski vests, backpacks, and other items of likely interest to young men in secondary schools). All of these probing questions follow under the rubric of the more general question. The interview guide contains many cues to help the interviewer remember the detailed points that are important to cover; this detail also helps to remind the interviewees of compliance steps they might have taken.

Certain other sections of the Title IX regulations make it impossible to rely merely on general format questions, followed by probing prompters. Rather, the complexity and detail of the regulations themselves demand that the interview guide contain a series of highly specific questions. Typically, questions about these sections of the regulations begin with questions about the simplest level of compliance, then progress through a series of detailed points to questions about the style or finesse with which the regulations have been implemented. A good example of a sequence of questions of this type can be drawn from the interview guide's section on physical education program compliance:

(1) Has the district reviewed all course descriptions and written materials pertaining to the PE program to ensure that these are free from gender bias and compatible with Title IX?

(2) Has the district taken steps to ensure that its PE requirements do not discriminate in the way they provide student access to physical education courses?

(3) Has the district taken steps to ensure that instruction in all PE courses and activities (including contact sports) is provided in a manner that is free from gender bias and compatible with Title IX?

(5) Has the district taken steps to ensure that PE facilities and physical resources are allocated in an equitable manner that is free of gender bias and compatible with Title IX?

(6) Has the district taken steps to ensure that the PE program provides students with a range of activity options that allows them to pursue their interests in an environment free from gender bias and compatible with Title IX?

*(7) Has the district taken steps to ensure that the PE staff are treated in a fair and equitable manner that is free of gender bias and compatible with Title IX?

*(8) Has the district involved the PE staff in the process of implementing Title IX?

Each of the questions, except those noted with an asterisk, address specific points raised in the Title IX regulations. (Those set off with asterisks are additional questions which reflect consensus among CCSEE staff about the most advantageous ways of implementing Title IX; hence these items do not flow directly from the Title IX regulations, but were thought to suggest important qualitative distinctions among districts).

For both the general and the specific questions, each item is followed by an explicitly written set of scale statements. These scale statements attempt to characterize both the logical and sequential steps a district might take, first to investigate its practices in each substantive area and, then, to act upon any areas of noncompliance discovered in the first step. Hence, each scale statement tries to characterize a typical sequence of district responses to each question. For example, note the scale steps which follow question #7 (about what steps the district has taken to ensure that the PE staff are treated in a fair and equitable manner):

(a) District has not reviewed and evaluated its policies and practices regarding treatment of PE Staff, nor has it interviewed its PE staff to ascertain possible gender biases.

(b) District has reviewed distribution of class and activity assignments, allocation of fiscal and space resources, extra pay, etc., and has identified any inequities in treatment of PE staff.

(c) District has further investigated the treatment of PE staff by interviewing PE staff members and solicting their perceptions of any inequities in staff treatment.

(d) Based on information collected in "B" and "C" above, district has taken positive steps to eliminate inequities in treatment of PE staff.

(e) Identified problems have been remedied; affirmative action is in evidence.

(f) Does not apply.

If the discussion following the above question indicated that the district really had not yet begun to consider the question of gender inequities in treatment of PE staff, scale response "a" would be appropriate. If the district had just begun to investigate this area (logically, beginning by reviewing existing data on staff job assignment as well as fiscal, promotion, space and resource allocation, pay scale, and related data), scale response "b" would be appropriate. If the district had completed step "b" and was further probing this area by interviewing PE staff and soliciting their perceptions of treatment by the district, scale response "c" would be appropriate. If the district had initiated reforms, based on information collected in a review of relevant data and a survey of affected staff, scale response "d" would be most appropriate. If the district had actually completed its correction of past inequities and showed evidence of ongoing affirmative, non-discriminatory treatment of PE staff, scale response "e" would be appropriate. If the district had no PE program and no PE staff, response "f" would signal the computer tabulating the district's scale score to adjust the score so as neither to penalize nor reward the district on that particular interview item.

This procedure is followed for each of the specific areas of Title IX. Our validation procedures (see Methods section) permit us to assess the extent to which the scores obtained provide a realistic profile of district compliance. Comparison of pre-treatment and post-treatment scores gives us the measure of institutional change so conspicuously lacking in the past. Armed with this measure of institutional change in school districts, we shall then turn our attention to the effectiveness of the specific change models developed by CCSEE.

2. The Evaluation Question: Do Training and Technical Assistance Programs Make Any Difference?

Here we again take up the basic evaluation question. The essence of the evaluation task is to demonstrate that the CCSEE change models, strategies, training, and technical assistance significantly assist districts in the achievement of sex equity (i.e., that they REALLY make a difference, independent of all other influences). If our procedures of validating our dependent variable measure assure us that we are measuring change accurately, our overall research assures us that the changes that we measure are not due to exogenous influences (i.e., that they, in fact, stem from the application of the CCSEE change models).

The evaluation of the CCSEE change models proceeds according to the general conditions of the pretest-posttest comparison group design. As such, this evaluation design is quasi-experimental: using the assessment instrument we have already discussed, a comparison group of districts receive a pretest and posttest at approximately the same times as the experimental group. Given the nature of the program services offered by CCSEE, it cannot be said that a uniform "treatment" (in the strict, experimental sense of the term) is assigned to experimental districts; rather these districts that receive the anti-sexism services of CCSEE will be considered experimental districts. As such, the "treatment variable" is dichotomous: experimental group districts participate in the anti-sexism project and receive training, technical assistance, and "change models," while comparison group districts do not participate and do not receive services. Through the power networks of CCSEE, we secured agreements from a variety of agencies to maintain a "hands off" policy toward the comparison group districts; hence, the comparison group districts were kept in the closest possible approximation of a "controlled" experiment (with regard to sex equity). In this way, we have made our comparison group districts more closely resemble a "control group" in the classical sense of the term. Both the experimental group and the comparison group were randomly selected from the population of school districts in California. Using the schematic representation developed by Campbell and Stanley[2] in their classic Experimental and Quasi-Experimental Designs for Research, we used the following design. (See Figure 1-1 on the following page.)

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[2] Campbell, Donald T. and Julian C. Stanley. Experimental and Quasi-Experimental Designs for Research. Chicago: Rand McNally, 1966.

Figure 1-1

The Quasi-Experimental Design

R	O_1	X	O_2
R	O_1		O_2

where: R= random selection of experimental and comparison group districts from a single population

O= administration of measure of dependent variable (i.e., measure of Title IX compliance status)

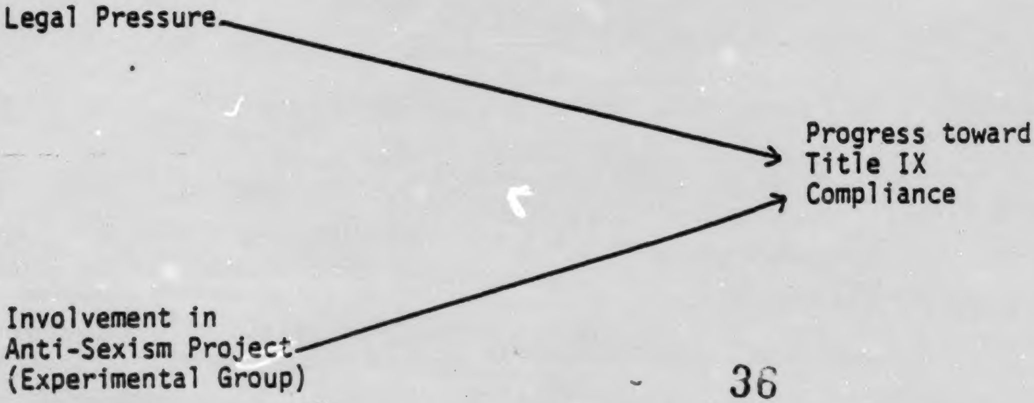
X= "Treatment", or participation in anti-sexism project (receipt of services, training, technical assistance, and change models)

This procedure of random selection into the experimental and control groups assures us that the changes measured between the pretest and the posttest are not the result of selection bias. That is to say, we are comparing the progress toward sex equity of districts that are comparable in all respects, except participation in the anti-sexism project. This, of course, does not assure us that the districts are, in fact, identical--- only that the differences among them that might be correlated with our variables are randomly distributed between experimental and control groups. This random selection gives our design enormous power, even though budgetary and practical factors limit the size of our sample. In effect, the random selection of districts assures that the progress we measure does not stem from the selection of a biased sample of districts.

Although our random selection procedure effectively removes the likelihood that exogenous factors (i.e., selection biases) account for any observed score differences between experimental and comparison groups, exogenous factors are nevertheless interesting. In particular, exogenous factors may explain differences in Title IX compliance within the experimental and control groups. Furthermore, the interactions among exogenous and treatment variables may illuminate the preferences of different districts for different types of services. In certain cases, exogenous factors (e.g., legal pressures from the Office of Civil Rights) may reinforce the effects of the treatment variable (i.e., involvement with the anti-sexism project). This possibility is represented in linear flow graph terms in Figure 1-2:

Figure 1-2

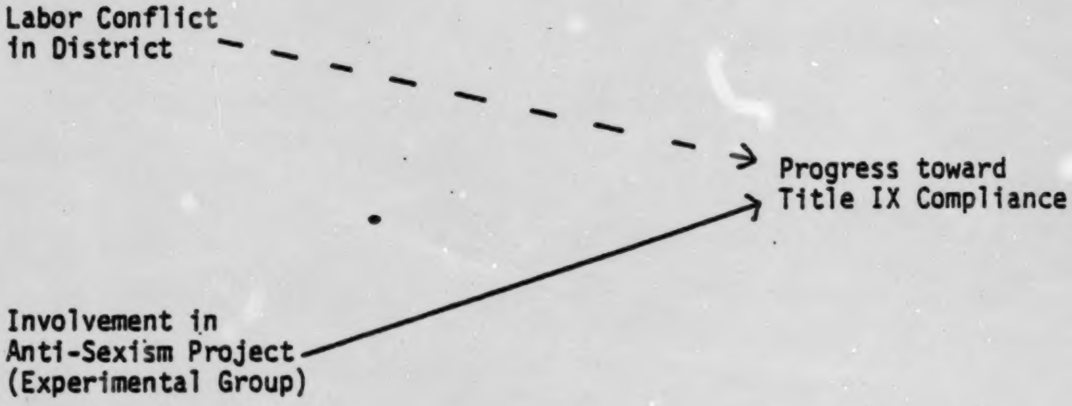
Hypothetical Reinforcer System


Legal Pressure
Progress toward Title IX Compliance
Involvement in Anti-Sexism Project (Experimental Group)

In other cases, an exogenous variable may distract the district from its concern with Title IX compliance or, in some other way, suppress the effect of the district's involvement with the anti-sexism project. The possibility that labor conflict undermined a district's sex equity thrust is sketched graphically in Figure 1-3:

Figure 1-3

Hypothetical Suppressor System

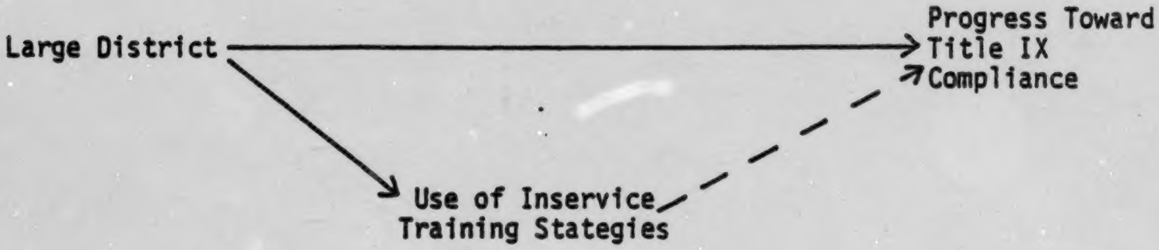

Labor Conflict in District
Progress toward Title IX Compliance
Involvement in Anti-Sexism Project (Experimental Group)

Note: In linear flow graph systems, solid lines represent positive relationships between variables, while broken lines signify negative or inverse relationships.

Furthermore, certain exogenous variables may interact with the nature of the treatment itself, and therefore affect the dependent variable. For example, we may see that large districts tend to prefer certain types of assistance (say, for example, inservice training). If we also knew that inservice training was less effective than technical assistance in removing institutional sex bias, but that large districts as a whole were more apt to comply with Title IX than small districts (because they endured more public scrutiny and commanded greater resources), we could devise a causal system similar to the one presented in Figure 1-4.

Figure 1-4

Another Hypothetical System


Large District
Progress Toward Title IX Compliance
Use of Inservice Training Stategies

These examples are presented merely to suggest the range of analytical possibilities that are offered by keeping track of exogenous (or control) variables. True statistical modeling of these variables would require larger sample sizes than were possible in this study. Indeed, our only statistically significant claims, given our sample size, are likely to be claims of gross differences between experimental and control groups. However smaller samples often whisper the results that would be detected with the statistical power of larger samples. Especially since we have eliminated systematic biases through our random sampling procedure, it would be a pity to ignore the interesting relationships among the variables we study. Our discussions of exogenous and ecological factors that affect our dependent variable will likely be couched in more conditional, equivocal language; nevertheless it may prove to be one of the more fascinating aspects of this study for all sex equity "practitioners".

CHAPTER II

The Literature Search: Procedures and Findings

A. Purpose

During the summer of 1978, CCSEE made a renewed effort to discover the "state of the art" of measuring institutional gender bias in schools. As already noted, the apparent lack of a valid and reliable measure of institutional sexism had frustrated early efforts to study the impact of the anti-sexism projects. Nomos Institute's 1976 reivew of the literature had documented and lamented the absence of such a measure. However, as of 1978, two years had elapsed since the Nomos effort. During that time, dozens of projects had sprung up around the country--all hoping to combat sex discrimination in education. Clearly, prudent research procedure required that CCSEE survey the published and unpublished literature to identify any helpful new measures that might assist its own research.

Furthermore, since CCSEE conceived of its own work as basic, experimental research, the measurement of exogenous factors (that might explain district progress toward Title IX compliance) was essential. The credibility of a claim that districts benefit from involvement with sex-desegregation projects rests on the ability to show that district progress in not related to some prior characteristics (e.g. propensity to innovate, liberalness, etc.). Hence, it was imperative that adequate measures of district organizational characteristics be found or invented. Preferring the former option, CCSEE also scanned the literature for measures of innovativeness, organizational climate, management styles, organizational formalization, centralization, and so forth.

B. Procedures

The literature search was pursued at the major research libraries in Califonia: The University of California at Los Angeles, the University of Southern California, the University of California at Berkeley, as well as at the library at California State University at Fullerton. Basic card catalog indexes were searched by hand at all of these libraries.

A computerized ERIC search was performed by the Library Services Office of the Cal State Fullerton Office; this search included the following subject descriptors:

Bias
Mental Rigidity
Attitude Testing
Affective Testing
Discriminatory Attitudes (Social)
Behavior Rating Scales
Community Attitudes
School Environment
Educational Innovation
Political Power (Pressure)
School Board Role
Sex Discrimination

As is typical of computerized searches, casting a wide net yields many more citations than ultimately prove to be useful. This particular effort was no different; it generated 101 citations, as follows:

Table 2-1

ERIC Scan Citations

No. of Citations	Topic
1	Tests and measures of community attitudes toward public schools (general)
16	Tests and measures of school board attitudes and their effects
8	Articles (but not necessarily measures) relating school boards to anti-sexist innovations
7	Articles relating school boards to educational innovation in general
13	Citations on the relation of community attitudes to public school programs
56	Tests and measures of school environment or attitudes (most of which were general and unrelated to sex bias issues)

All in all, the ERIC search yielded about 12 citations that were worthy of further exploration. These citations were obtained from microfiche and published sources.

The Education-Psychology Library at UCLA performed a computer search of the Psychological Abstracts from 1976-1978 using a similar (though smaller) list of subject descriptors. Again, the computer unearthed a larger number of citations than ultimately proved to be useful. All tolled, the search of Psychological Abstracts provided another 10 citations that were given further study. Also at UCLA, Sociological Abstracts were searched by hand and a few citations were obtained (although, by this time, the effort was yielding duplicate listings of the same works).

Since many of the most valuable references and measures were likely to be unpublished, considerable effort was made to contact experts and practitioners at other research institutions. This effort proved to be quite fruitful. In particular, the Test Collection at the Educational Testing Service in Princeton, New Jersey provided a wealth of references pertaining both to gender bias and to the measurement of environments. ETS's assistance led to identification of still other experts and practitioners who, in turn, were contacted. In addition to ETS, the following parties were contacted:

Bureau of Intergroup Relations, California Department of Education
Office of Program Evaluation and Research, California Department of Education
Laboratory of Educational Research, University of Northern Colorado
American Institutes of Research, Palo Alto, California
Wendy Martyna, Psychology Department, Stanford University
Rudolph Moos, Social Climate Scale, Consulting Psychologist Press, Palos Alto
Victoria Fromkin, Department of Linguistics, UCLA
Far West Laboratory for Educational Development, San Francisco
Project Aspire, Livonia Public Schools, Livonia, Missouri
Brookline Public Schools, Brookline, Massachussetts
Matthew Miles, Center for Policy Research, Columbia University, New York
Survey Research Associates, Palo Alto, California
University Council for Educational Administration, Columbus, Ohio

C. Findings

1. Measures Pertaining to Sex Bias.

As noted above, the primary purpose of our literature search was not to construct a definitive, new review of the literature, but only to ascertain whether measures appropriate to the needs of our research had already been invented and validated. Hence, our findings can be summarized quite succinctly: appropriate measures were found. Without belaboring the detailed reasons why each available measure was not suited to our purposes, we can indicate in a general way what problems we encountered.

The bulk of the measures found by our literature search fall within the tradition of attitude measurement established by Kirkpatrick (1936). Measures in this camp generally consist of declarative statements accompanied by Likert-type agree/disagree scales. As such, they are intended for administration to individuals, not to institutions (the units of analysis in this study). Hence, all of the attitude scales found in the literature search assumed a level of measurement different from that employed in this study. Though the quality of individual scales varied considerably (in terms of their transparency, predictive validity, inter-item correlations, etc.), a detailed comparison of their characteristics is superfluous to a study, like the present one, in which institutional behaviors are the principal object of scrutiny. Even if we knew that there was a direct relationship between an individual's attitudes and his or her behavior in the institutional context (which we do not know), we still would need to develop elaborate sampling plans to poll adequate numbers of individuals within each district to allow us to infer something about the distribution of opinion in that district. The sampling complications associated with this shift from aggregate to individual units of analysis are formidable. However, a second problem could easily ensue from use of the attitude scales found in the literature search. Since attitude measures are often contained in rather long questionnaires that pose a series of questions about individual beliefs, a good attitude measure (i.e., one that minimizes transparency and social desirability set) sometimes seems either to pry or be difficult to interpret. Hence, a technically good measure would probably jeopardize rapport with the subjects. These theoretical and practical problems rendered the vast attitude measurement literature virtually useless to CCSEE in this research endeavor.

The literature search also unearthed several measures from a different empirical tradition--the "social indicators" approach. In general, measures within this tradition held more promise because the approach is more consistent with the methodological underpinnings of our own research. Although the literature search failed to find one single "indicators measure" to meet all of our needs, several suggestive component parts were discovered. For example, Blanchard (1976) conducted a survey in 1975 that reported one third of the school districts in the United States did not have even one woman school board member. Since school board members are elected officials, it is difficult to interpret the absence of women members unequivocally as institutional sexism (rather than, say, sexism in the community); however, Blanchard's study compared school boards on other characteristics of interest. He found that, in general, the presence of women on school boards contributed to a healthier, more realistic and open atmosphere of decision-making. Boards with at least two women members were less likely to conceal their decision-making processes from the public, even though these districts did in fact have more conflict than all-male boards. These boards placed greater emphasis on the hearing of complaints and grievances from parents, and of maintaining contact with state and federal legislators. In other words, Blanchard's study suggested several indicators that districts were wrestling with sexism, all of which were associated with the presence of women on the school boards: (1) openness of decision-making processes; (2) conflict in the school board arena; (3) the accessibility of grievance procedures for parents; (4) maintenance of a variety of contacts with state and federal legislators and agencies. Blanchard's study also noted one other interesting correlate of the presence of women on school boards--negative or hostile opinions about those women board members held by most of the districts' superintendents. Since the opinions and attitudes of "key actors" are likely to color many other institutional characteristics, this suggests that investigators interested in the "climate for sexism" in districts might pay particular attention to the relations between superintendents and school boards.

As is clear from the above example, institutional indicators are sometimes suggested by research that did not take the development of indicators (per se) as its central task. In fact, some of the most useful indicators uncovered by the literature search serendipitously emerged from unexpected places. For example, Stron and Feldman (1975) developed a set of guidelines by which elementary school teachers in Brookline, Massachusetts, could check for sexism in their own classrooms. The checklist's purpose was more didactic than evaluative (indeed, the questions assumed that the teachers wanted to rid their classrooms of sexism); nevertheless, the checklist's items contain fairly good indicators of sexism in elementary schools. They call attention to the problems of associating areas of classrooms with gender-typed activities (e.g. "housekeeping corner" versus "construction area") --- a practice which may foster peer-group pressure against youngsters who want to engage in non-traditional pursuits. Similarly, the checklist mentions such topics as the segregation of boys' and girls' books, the development of different sequences of activities in PE classes and other sex-differentiated play activities. It asks teachers whether they tend to use boys' and girls' names in stereotyped ways in their pedagogical examples, and whether they recruit students for stereotyped tasks asking for "strong boys" and "good girls". The checklist alerts teachers to the possibility that they may have different behavioral expectations of boys and girls, that they may set different achievement standards, make different displays of affection and disapproval, exact different censures and punishments, and bestow different rewards. These behavioral indicators are sensitive and subtle; their main utility in this study would be to serve as observational indicators that, by comparison to a district's "institutional sexism score" obtained from our scaling instrument, could indicate the extent to which district-level institutional changes "trickle down" to the classroom level.

The literature on sexism in linguistic interaction provides another example of potentially useful indicators that serendipitously were culled from tangentially related articles. Several recently published review articles have noted that men tend to talk more and to interrupt more in mixed groups (e.g., Kramer, Thorne, and Henley, 1978), whereas other linguists have noted that intonation itself serves as a vehicle for inter-personal power and dominance (McConnell-Ginet, 1978). Linguistic methodologists have provided systematic (though, by no means, simple) procedures for the analysis of power in groups through coding of turn-taking in conversation (Sacks, Schegloff, and Jefferson, 1974). This literature suggests the possibility of tapping (in a very unobtrusive way) changes in the inter-personal dynamics of the core liaison groups in experimental school districts --- behavioral changes of the utmost subtlety. Coding and analysis of the pre- and post-treatment tape recordings of the interviews with these groups could (in theory) generate extremely interesting information on behavioral change. Unfortunately, a strategy of this sort is beset by several difficulties. For one thing, audio recordings could probably establish (with some reliability) which speakers were male or female; they could not, however, allow coders to differentiate those who actually had power (and accordingly, deference from others in the group--e.g. superintendents) from more plebian members of the district liasion groups. This flaw would confound analysis of the data. A further problem arises from the lack of linguistic experience among our own research staff. Given this inexperience, linguistic analysis of the tape recorded interviews would need to be delegated to some sub-contractor (an unlikely event given budgetary restrictions in the scope of our research).

While several indicators were suggested by articles that were never intended by their authors to propose indicators, our literature search unearthed only one article that explicitly focused on indicators of sex equality (Dixon, 1976). Ironically, this article provided no applicable information --- primarily because of its macro-sociological level of analysis. Although we may be interested in indicators of progress toward equality in the spheres of sexual relationships, reproduction, homemaking, childcare, economic production, and political decisionmaking, our own study does not assess the broad sweep of social change in the United States in the 1970's, but rather is concerned with change processes in the more circumscribed institutions of public education. Hence, macro-sociological indicators, however ingenious, are not applicable to our research problem (except, perhaps, as an analogical example).

In sum, the measures pertaining to sexism found in the literature search fell into two broad categories: survey approaches (usually attitude measures) and indicator approaches. The survey-based measures were inappropriate for use in the validation part of this study because (1) they measured the attributes of individuals rather than of institutions --- a different unit of analysis; (2) they often measured different domains and constructs, such as "attitudestoward women", "support for feminists", "mental rigidity" and so forth. Such incongruities are incompatible with the validation needs of an instrument measuring level of school district effort to comply with Title IX regulations. It would, of course, be interesting to know whether individuals within school systems changed their attitudes as a result of exposure to sex equity training and "consciousness raising" programs. However the researcher's ability to monitor changes in individual attitudes hinges on the ability to conduct random sample surveys of school students and personnel --- a research strategy that might jeapordize fledgling rapport with school districts that recently were themselves randomly selected.

The literature search unearthed fewer studies and measures using a "social indicators" or "observational indicators" approach to the measurement of sexism in schools, but those few that were found proved to be more compatible with the intentions of this study and, hence, more helpful. The items contained in these instruments contributed ideas, examples, and prompts to the final draft of the CCSEE Title IX Implementation Instrument. Although none of the measures found had the scorable features that would permit correlation to the CCSEE instrument, they sometimes contained behavioral indicators that promised to enhance validation observations of the verification site visits (see Methods Section). Furthermore, the investigation into indicators led to the consideration of a novel linguistic approach to the measurement of biased behavior--- an approach that is beyond the scope of the present study, but that nevertheless merits further exploration.

2. Measures Pertaining to Organizational Climate, Innovation, and Management Style

Our search for measures of organizational climate and innovation and "management style" was frought with the same difficulties that had been encountered in the search for measures of sex bias. Again, we encountered the tension between psychological measures of the traits of individuals and macro-sociological measures based on indicators of gross organizational characteristics.

The psychological survey measures employed either attitude questionaires or projective techniques to measure individual perceptions of organizations. For example Epstein and McPartland (1976) developed a 27 - item "Quality of School Life" scale for administration to elementary, middle, and high school students that tapped various facets of student attitudes toward school: attitudes toward academic achievement, school participation, ambience of the student body, etc. Its items, though not appropriate for administration in this study, suggested questions that could be asked during site visits to participating districts. Similarly, the Cooperative Project in Educational Development (1967) developed a "Do's and Don'ts Questionnaire" designed to tap the informal norms of school systems. This questionnaire tried to assess the extent to which people feel free to criticize their own district and, again, offered more analogical than direct help. The measures based on projective techniques, on the other hand, were more problematic. While the psycholanalyst might be fascinated by data on the "images" people project onto their organizations, its utility to CCSEE was tangential. Indeed CCSEE might have jeapordized its rapport with districts had it surveyed districts, asking personnel to "imagine and describe your district as an animal" or " imagine your district as a person and describe the expressions on her/his face". Hence, the psychological measures discovered in the literature were discounted because of their inappropriate content, their incongruent level of measurement, and their reliance on sample survey techniques. Despite finding occasionally ingenious survey items, we sustained our reluctance to administer psychological surveys to samples of school populations.

Again, the indicators-based literature was more directly useful to us, although no single instrument was found that could be adapted simply, without modification. However, some of this literature provided theoretical insights that ultimately helped us fashion our own measures. For example, Williams (1976) posited common characteristics of innovative urban school districts:

1. a citizenry that encourages and supports change;
2. an assertive school that translates community mandates for change into district policy;
3. a strong superintendent whose leadership skills are known and respected by the school district and community;
4. a well-defined and developed change delivery system;
5. a teaching staff that is, at least, not opposed to change.

Even more useful was a formal definition of innovation suggested by Price in his Handbook of Organizational Measurement (1972): Innovation is the degree to which a social system is the first or early user of an idea among its set of similar social systems. This definition follows the conventions of organizational research--- research which considers innovative business firms to be the first to introduce a new product, innovative hospitals to be those that are first to implement new treatment programs, etc. In accordance with these definitional principles, CCSEE was able to formulate a few questions about specific district behavior that permitted us to classify districts into innovative and non-innovative camps (see Methods: Measures of Exogenous Variables).

As noted earlier, most of the studies of organizational climate have surveyed individuals (usually large numbers within organizations) and tried to determine the extent to which they believe that they can "make a difference", "exert power", and so forth. Such measures of organizational climate try to tap feelings of alienation and normlessness (again, leaning heavily on social-psychological approaches to measurement). For the same reasons already detailed, we again eschewed a survey strategy for measuring organizational climate. However, once again, we noticed that these survey-based studies reached conclusions suggestive of indicators that possibly could be integrated into our own design. For example, we scrutinized Litwin and Stringer's classic (1968) study of organizational climate; it cited nine dimensions of organizational climate:

1. structure, the feeling that employees have about the constraints in the group;
2. responsibility, the feeling of being one's own boss;
3. reward, the feeling of being rewarded for a job well done;
4. risk, the sense of challenge in the job and in the organization;
5. warmth, the feeling of general good fellowship that prevails in the work group atmosphere;
6. support, the perceived helpfulness of the managers and other employees in the group;
7. standards, the perceived importance of implicit and explicit goals and performance standards;
8. conflict, the feeling that managers and other workers want to hear different opinions; and
9. identity, the feeling that one belongs to a company and is a valuable member of the team.

Litwin and Stringer's typology is enlightening, but it also suggests that psychological measurement of organizational climate is a very big order---an order that would require the administration of multiple survey measures.

Unfortunately, the literature search did not uncover any developed indicators of organizational climate in schools. Research on "community climate" has managed to develop some workable indicators. In particular, John C. Maloney of the Community Service Council of Indianapolis (see Miller, 1977) developed a "Social Vulnerability Index" to "measure the relative extent to which persons residing in specified geographic areas of the community were vulnerable to experiencing adverse social and physical strains beyond their ability to cope without help." The index consisted of eight sufficient but not exhaustive variables determined by factor analysis:

1. median family income;
2. percent of families below the poverty level;
3. percent of families with both husband and wife;
4. percent of housing without some or all plumbing facilities;
5. percent of civilian labor force unemployed;
6. percent of household lacking an available automobile;
7. rate of ambulance runs per 1000 population and;
8. rate of tuberculosis per 1000 population.

While these indicators undoubtedly are helpful to those engaged in community research, their utility to educational researchers is limited. However, they do suggest that perhaps the most important factors influencing "organizational climate" will be those concerning the general ecological set surrounding school districts: wealth, urbanness, population density, percent minority enrollment, size of district, presence of labor (or other) conflict, etc.. Again, our reading of the available measurement literature pointed us toward the simple measure of "tangibles" rather than the complex measurement of either aggregate psychological constructs or mass states of mind.

Our search for measures of "management style" was utterly fruitless. Miller (1977) notes several attempts to measure formalization and centralization in organizations, but this hardly seemed to be a satisfactory surrogate for "management style". What measures exist rely again on survey approaches--- generally devoted to ascertaining what are the bases of

management authority in particular organizations. The Weberian paradigm clearly is waiting in the wings here. Weber, of course, posited that authority rested on one or more of the following bases: (a) reference groups, (b) expertise, (c) rewards, (d) coercion, or (e) legitimacy.
To use measures of "management style" that are based upon this Weberian paradigm, one would need to identify the actor(s) within a district who _really_ wield the power, then survey district personnel to see on which of the above bases that actor's authority rests. While this two-step exercise would probably endear CCSEE to Weber scholars everywhere, it would stray too far from our central research purposes. Because we do not expect these different bases of authority to affect the outcome of our experimental treatment and because the two-step measurement process itself is oblique and difficult, CCSEE chose to ignore the marginally-useful literature on "management style" that it had excavated from the libraries during the literature search.

In summary, we can say that the search for measures of innovation, organizational climate, and management style provided some examples, a little inspiration, a few useful definitions, and a small amount of theoretical guidance for resolution of our own measurement dilemmas. However, it did not provide any single measure worthy of wholesale adoption and use in the study. Hence, to control for the exogenous factors of interest, we again turned to our powers of invention. The measures that we devised are described in the section entitled, Methods: Measures of Exogenous Variables.

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CHAPTER III

Methods

A. Sample Selection

To ensure that our sample of school districts reflected the heterogeneity of the California school population, CCSEE opted to draw a stratified random sample. Orignially, we intended to use three stratification variables in the sample selection: socio-economic status, ethnicity, and urbaness. However the last of these stratification variables posed definitional problems that we could not clearly resolve. The fundamental index of urbanness presently used in the American social sciences is that developed by the United States Census. This is a crude, dichotomous distinction--- urban versus rural. The Census defines the rural population too narrowly for our purposes. According to the definition adopted for use in the 1970 Census, the urban population

> "comprises all persons living in urbanized areas (SMSA's) of 2,500 inhabitants or more outside urbanized areas. More specifically, the urban population consists of all persons living in (a) places of 2,500 inhabitants or more incorporated as cities, villages, boroughs and towns, but exluding those persons living in the rural portions of extended cities; (b) unincorporated places of 2,500 inhabitants or more; and (c) other territory, incorporated or unincorporated, included in urbanized areas. The population not classified as urban constitutes the rural population".[1]

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[1] United States Census. Characteristics of the Population: California, 1970.

This census definition makes nearly all of California "urban"; we concluded that this was not theoretically meaningful as a stratification variable. The problem was further complicated by the absence of data at the school district level on the urbanness of California districts. The California Department of Education, our primary source of data on the demographic characteristics of our population, does not organize its data according to district population density, nor does it maintain any index of urbanness per se. For all of the above reasons, we abandoned the urban/rural distinction when formulating our stratification variables, although we retained it as a "control" variable (see this chapter, Section C.I.f.).

As for the other two stratification variables, our task was much simplier. We obtained Department of Education data that coded all districts according to their percent of families receiving help from the Aid to Families with Dependent Children (AFDC) program (our SES poverty indicator).* The data on percent AFDC recipients in districts were arrayed in a tripartite division; the "percent minorities" data were divided into quintiles. The frequency distribution for our sampling pool (the population of school districts in California) by these two stratification variables follows in Table 3-1.

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* We wish to acknowledge and express our thanks to Nomos Institute of Berkeley, California for making available to us the needed data from the California Department of Education. This assistance from Nomos Institute saved us the expense and the time of ordering a special computer run from the Department of Education to obtain the needed demographic classifications of California school districts.

Table 3-1

Distribution of California School Districts According to Two Stratification Variables

	% Minorities					
% AFDC	1 (high)	2	3	4	5 (low)	N
1 (high)	136	77	55	43	38	349
2	39	96	85	61	63	344
3 (low)	26	32	68	100	123	349
N	201	205	208	204	224	1042

Given our budget constraints, we decided that our optimal sample size would be 30 experimental districts and 30 control districts; a sample of this size would permit simple statistical analyses of gain scores (analyses whose strength would be enhanced by the experimental controls established in the overall research design, the random selection, etc.). Hence, given 15 cells in the sampling matrix, we drew two experimental and two control districts randomly from each of the cells. Since we expected that not all of the districts approached by our project would be willing to participate (either as experimental or as control districts), we also drew a 100% oversample (i.e., two extra experimental and two extra control districts from each cell) as back-up districts; invitations to participate were sent to back-up districts from the appropriate cells whenever we received a declination from one of our first-choice districts. Hence, we drew a total of four experimental and four control districts from each cell of the sampling matrix.

Our first pass at this sampling approach revealed problems. Our first sample draw resulted in an oversupply of very small, rural, elementary school districts with minuscule Average Daily Attendance Figures. In effect, this result followed our inability to include an adequate index of urbanness among our stratification variables. We concluded that this was not a satisfactory sample, since at least 85% of California school children attend the larger unified school districts more common to the urban parts of the state. However, we realized that, since unified school districts are primarily urban, their selection would guarantee (as a surrogate) that the sample roughly reflected the population distribution of California. To this end, we drew a second sample. On this pass, we allocated three of the four slots in each cell (each for experimental and control) to unified or union high school districts. Hence, we assured ourselves that at least 75% of our sample would likely be in the urban and surburban communities that are most typical of the state.

Unfortunately, it was impossible to fill the sample to the capacity desired (30 experimental, 30 control), even with the 100% oversample. Two factors undermined our efforts in this regard. First, unanticipated delays in funding authorization for the study prevented us from drawing the sample early in the summer of 1978--- and from inviting the participation of districts during the month of July (a time that is most advantageous for making agreements of this sort). As it turned out, we were unable to send letters of invitation until late in August. Given the slow processes by which districts make their decisions, we were not able to approach our back-up districts until October and November of 1978, by which time many districts were reluctant to start new ventures. A second factor that thwarted our efforts to fill the sample was Proposition 13's passage in June of 1978. Proposition 13's financial impact on school districts was not yet known, but it made districts exceptionally wary of getting involved in any new projects (even when the services were offered free). The districts' caution also further slowed the consideration of and response to our overtures. Ultimately, we were only able to draw 23 districts into the experimental group, and only 13 districts into the control group. Although this compromised our already pale powers of statistical inference, our random selection procedures did give us samples free from selection effects and, more or less, reflective of the heterogeneity of California school districts.

The sample's characteristics with regard to the stratification variables are summarized in Table 3-2.

TABLE 3-2

Districts Selected Into Sample, By Stratification Variables

		% Minority Enrollment					
% AFDC	Treatment	1 (high)	2	3	4	5 (low)	Total N AFDC
1 (high)	Experimental	2	2	1	1	1	7
	Control	1	0	2	1	0	4
2	Experimental	1	4	3	1	0	9
	Control	1	2	0	1	2	6
3 (low)	Experimental	0	1	1	2	3	7
	Control	0	1	0	1	1	3
Total N Minority							
	Experimental	3	7	5	4	4	N=36
	Control	2	3	2	3	3	

B. Measurement of Dependent Variable

1. Development and Structure

The logic and structure of the CCSEE Title IX Implementation Assessment Instrument, the measure of the dependent variable in this study, has already been described in detail in the Chapter I-C (General Approach to Research). We shall not tax the reader's patience by repeating that information in tedious detail. However a brief recapitulation may be helpful.

The CCSEE Instrument consisted of 40 interview questions that covered all of the basic issues raised by the Title IX legislation. Each question sought to determine what steps the district had taken to comply with Title IX's requirements. Each of the 40 general interview questions was followed by a series of "prompting questions" designed to suggest specific steps that a district might have taken (i.e., to make the general questions more concrete). Each interview question was also followed by a Guttman-like scale of the following general form:

A. District has taken no steps to address this point.

B. District has begun to investigate its behavior in this area by reviewing written documents, rules, policies, handbooks, etc.

C. District has further investigated its compliance in this area by collecting and analyzing quantitative data on patterns of participation, enrollment, employment, etc.

D. District has moved to remove inequities identified in steps "B" and "C" above.

E. Affirmative action is in evidence (i.e., District has removed barriers to equity and a pro-equity status-quo is in effect).

The CCSEE Instrument was designed to be administered to groups---in particular, to district teams comprised of teachers, administrators, students, counselors, classified personnel, board members, and union representatives. A copy of the intrument is found in Appendix A.

2. Scoring Procedures

Interviewers circled all appropriate items on the scales (A through E) at the time of the interview. These provided the basis for our Guttman scale analyses. Interviewers also made extensive written notes to detail exactly what steps the district had taken to meet the requirements of Title IX. All interviews also were tape recorded.

Following the interview, an independent rater listened to all tape recordings and reviewed all written notes made by the interviewers during the interviews; on the basis of these data, the independent rater made Likert-type ratings on the district's "level of effort to comply"---ratings that were converted to scores on each dimension of Title IX. To convert the Likert ratings to scores, each dimension of Title IX was assigned a total value of 100 points, such that each question for that dimension was worth its commensurate proportion of the dimension's total 100 points. (For example, if a dimension had 10 questions, each question was worth 10 points).

3. Field Test

In the Fall of 1978, shortly before the first (pre-treatment) cycle of data collection, the CCSEE instrument was field tested in two non-project school districts. This field test was primarily designed to assess the face validity of the interview guide questions and the efficacy of the general interview procedure. Based upon that field test, minor modifications were made in the instrument. In particular, the field test led to wording clarifications in a few interview questions, to the modification of a few of the scales (giving all scales the consistent "A through E" format), and to a reformulation of the graphic layout of the interview guide (so that each question had its own page, thereby leaving plenty of space for interviewers to write comments). In general, the CCSEE Instrument passed the field test with flying colors and, as a result, was reproduced for use in the pre-treatment cycle of data collection.

4. Training of Interviewers

CCSEE, upon reflection, decided that the quality of interviews would be greatly enhanced if interviewers were already conversant with the provisions of Title IX. Hence, interviewers were recruited from the network of sex-equity related projects in California. Training sessions were held in both Northern and Southern California immediately preceding each cycle of data collection. The training sessions included a general description of the research objectives and design, an orientation to the nature of the interview instrument and scales, solicitation of trainee questions, the staging of a mock or "protocol" interview that served as a common stimulus for trainee scale markings, a review and critique of their scale ratings (in response to the protocol), and a series of admonitions about general methodological problems with interview techniques. In particular, trainees were warned that the interview guide was not to be used for rote repetition of structured questions, but rather as a reminder of topics to be discussed; they were told that it was their job to listen and watch for signs of disagreement among members of the interview group, to probe the meaning of the disagreements and ambiguities, and to record their impressions of the extent to which the district answers had been candid. They were cautioned to avoid "putting words into the mouths" of the interview teams. Finally, they were alerted to the pernicious effects of fatigue and repetition--- sources of the "order effects" that can undermine interview procedures.

5. Administration of Instrument

The pre-treatment cycle of data collection began on November 28, 1978 and ended on January 23, 1979. The post-treatment cycle of data collection began on November 26, 1979 and ended on February 14, 1980. During both cycles, completed interview guides/scales were reviewed immediately to check for obvious errors in procedure. Quality control personnel discovered serious errors in the ratings of two interviewers in the pre-treatment cycles -- these errors were corrected immediately.

6. Validation Procedures

Validation procedures typically are divided into assessments of reliability (a logical prerequisite of validity) and of validity itself. Our validation procedures were no exception; however the effort was, to some extent, crippled by the absence of correlative measures--- an absence that had inspired this research in the first place.

Our assessment of the reliability of the interview/scaling procedure emphasized inter-rater reliability. Our effort to assure reliability hinged on two factors: (1) the content specificity of the Guttman-like scales following each interview question, and (2) the training of the interviewers. Logically, of course, inter-rater reliability depends on the ability of the raters to translate the meanings of interview responses into scale ratings in a consistent way. The cultivation of this ability was the cardinal objective of the interviewer training sessions--- and the use of the protocol interview drill served as the centerpiece of our effort to assure inter-rater reliability. Furthermore, the tape recordings made of all interviews preserved the orginal raw data for later reliability and validity checks.

The assumptions of our research and of our instrument rendered some of the more common statistical tests of reliability useless. In particular, Cronbach's alpha coefficient was not appropriate. Alpha is particularly common in assessments of reliability among tests designed to measure one psychologic or cognitive construct (e.g., intelligence, knowledge or mathematics, etc.). In this instance, the alpha coefficient is not an appropriate measure of reliability, since each question in the instrument refers to a specific and unique criterion of the Title IX regulations; hence each question refers to a unique facet of the compliance required by federal law. School districts, as a rule, are very gradual in their implementation of program changes pursuant to laws like Title IX. We would *expect* to find districts implementing Title IX in their physical education curriculum one year, in their regular course curriculum another year, in their administrative procedures another year, etc. Hence, we would *expect* to find a lack of correspondence among the various dimensions of the CCSEE Instrument--- a finding which, in our view, does not undermine the reliability of the instrument itself. For these reasons, we decided not to compute the usual measure of instrument reliability, the Cronbach alpha; rather, our estimation of reliability relied more on qualitative evaluations of inter-rater reliability.

The data scoring and processing steps helped to ensure reliability by subjecting the raw data to independent review by different parties. First, the interviewer made written notes at the time of the interview--- notes which she or he then transcribed into typewritten reports. Next, an independent rater listened to the tape recordings of the interviews and made the Likert-like ratings (which formed the basis of the scale scores analyzed as the dependent variable of the study). Next, still another independent party listened to the tapes and prepared another written summary. Finally, another independent party compared all of these data sources (and any other available data sources on that district) and identified any incongruities. Incongruities were investigated to determine whether scale scores were in error--- and offending scores were dropped from the analysis.

Anomalous or incongruous scores also led to the selection of some districts for Verification Site Visits following the post-treatment cycle of data collection. In May of 1980, a CCSEE staff member who had had no prior contact with any of the districts conducted Verification Site Visits at 11 CCSEE districts. This observer operated in a very informal, journalistic fashion--- interviewing personnel and students, visiting classrooms and athletic fields, chatting in faculty lunchrooms, observing materials in libraries and career guidance centers, and so forth. (The results of these Verification Site Visits are reported in Chapter Four.) In a sense, the Verification Site Visits provided the last court of appeal in cases of disputed ratings or conflicting information. This procedure served not only to resolve inconsistencies in the data (reliability problems), but also to check on the veracity of the data obtained from the interviews themselves (a validity issue). Each Verification Site Visit was summarized in a field case study report; these written field reports were also compared to the other qualitative and quantitative data. This procedure for establishing construct validity has precedents in the classical sociological literature--- as, for example, in L. Lloyd Warner's techniques for validating his measure of social class in "Yankee City". As suggested by Scriven

(1975)[2] and Campbell and Boruch (1975)[3] the narrative histories obtained from the prescientific modes of inquiry (e.g., journalistic case histories can provide a valuable supplement to experimental techniques and can serve the cause of construct validation. We assigned this procedure a critical place in our validation design.

The data processing and verification procedure described above is presented in graph form in Figure 3-1.

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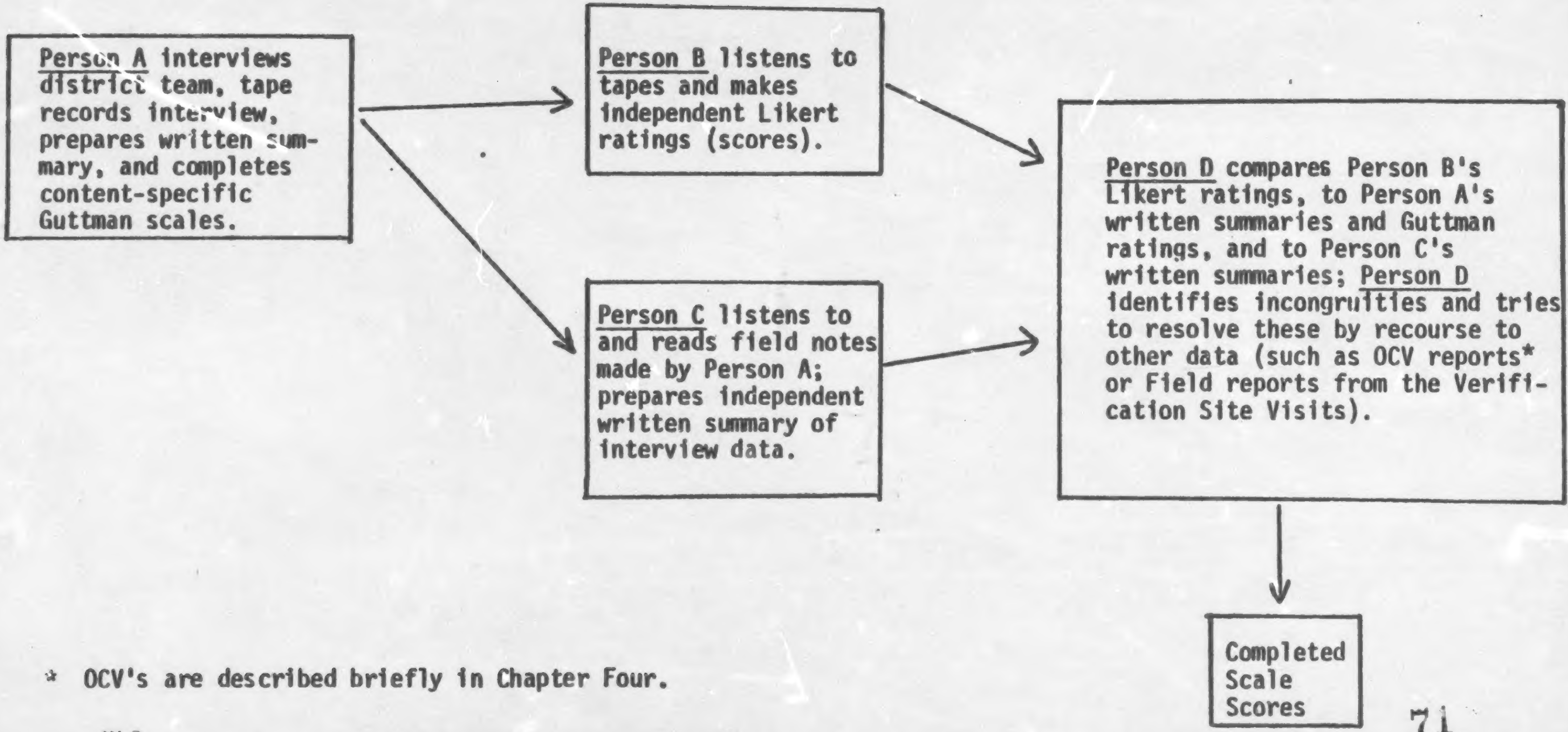
[2] Scriven, Michael, "Maximizing the Power of Causal Investigations," in Popham, ed., Evaluation in Education: Current Applications, Berkeley: McCutcheon, 1975.

[3] Campbell, Donald T. and Robert F. Boruch, "Making the Case for Randomized Assignments to Treatments by Considering the Alternatives. . ." in Carl A. Bennett and Arthur A. Lumsdaine, eds., Evaluation and Experiment New York: Academic Press, 1975.

Figure 3-1

The Processing Perspective:
How The Interview Data and Scale Scores Were Checked for Reliability and Validity



Person A interviews district team, tape records interview, prepares written summary, and completes content-specific Guttman scales.

Person B listens to tapes and makes independent Likert ratings (scores).

Person C listens to and reads field notes made by Person A; prepares independent written summary of interview data.

Person D compares Person B's Likert ratings, to Person A's written summaries and Guttman ratings, and to Person C's written summaries; Person D identifies incongruities and tries to resolve these by recourse to other data (such as OCV reports* or Field reports from the Verification Site Visits).

Completed Scale Scores

* OCV's are described briefly in Chapter Four.

C. Measurement of Control Variables

CCSEE collected data on several other district characteristics thought (potentially) to influence district ability and/or will to take the steps required for Title IX compliance. These control variables fell into four general groups: (1) variables concerned with the general organizational and ecological characteristics of the district; (2) fiscal, political, or special factors that could influence the district's ability (or will) to comply with Title IX; (3) organizational "climate" factors; and (4) variables concerning the treatment itself. Marginal frequencies for all these variables are presented in Table 3-3 at the end of this chapter.

1. Demographic, Organizational and Ecological Variables

a. Organizational Type

Districts were classified into three organizational types: unified school districts, elementary school districts, and high school districts. This classification was based simply upon the district name (as listed in the California Directory of Public Schools).

b. Poverty Level in District

Statewide data on the percentage of AFDC families in each district in California were grouped into three equal groups: high, medium, and low. This tripartite grouping formed one of the stratification variables used for selection of the districts in the sample (see Chapter 3-A).
The designation was maintained as an ecological variable in our own data bank.

c. Percent Minority in District

Statewide data on the percentage of non-white students enrolled in each district in California were divided into quintiles. This grouping also was used as a stratification variable for initial sample selection; however, for use as an ecological variable the highest two categories were recoded as "high", the middle category as "medium", and lowest two categories as "low".

d. District Enrollment Size

State data on the ADA (Average Daily Attendance) were obtained for districts in the sample. Actual ADA figures were recorded for each district, but for data analysis purposes, these data were grouped into three groups: Small districts with zero to 5,000 students; Medium districts with 5,001 to 10,000 students; and Large districts with more than 10,000 students.

e. Geographic Area of State

Districts selected into the sample were scattered all over the large state of California. Responsibility for coordinating services and liaison with these districts was divided along geographic lines among the three Co-Directors of CCSEE (who reside respectively in the Bay Area, Sacramento, and Southern California). Hence all districts were assigned geographic codes on the basis of which Co-Director served as their liaison. This procedure reflected geographic reality pretty well, but there were a few flukes. In particular, a few districts that lie geographically closer to Sacramento were assigned to the Co-Director from the Bay Area because the Co-Director of Sacramento already had an ample share of districts (owing to the number of districts in the extreme north of the state that were selected into the sample).

f. Metropolitanism

Use of the conventional Census definition of "urbanism" leads to somewhat idiosyncratic results when applied to California districts. Many "bedroom communities" to major metropolitan areas are viewed as "rural", while medium-sized towns in remote areas are termed "urban". The National Opinion Research Center (NORC) at the University of Chicago has developed an alternative coding scheme based on the Census designation of SMSA's (Standard Statistical Metropolitan Areas) that, for our purposes is more satisfactory. We used data on the towns served by districts in our sample to code all districts according to this NORC classification system (a system that, in effect, categorizes places according to their "metropolitanism"). The NORC categories are as follows:

1. Within an SMSA and a large central city (over 250,000);
2. Within an SMSA and a medium size central city (50,000 to 250,000);
3. Within an SMSA and a suburb of a large central city;
4. Within an SMSA and a suburb of a medium size central city;
5. Within an SMSA and an unincorporated area of a large central city (division, township, etc.);
6. Within an SMSA and an unincorporated area of a medium central city;
7. Not within an SMSA, within a county, and a small city (10,000 to (49,000);
8. Not within an SMSA, within a county, and a town or village (2,500 to 9,999);
9. Not within an SMSA, within a county, and an unincorporated area less than 2,500 or an unincorporated area of 1,000 to 2,499;
10. Not within an SMSA, within a county, and open country within larger civil divisions, e.g., township, division, etc.

For purposes of our analysis, we grouped categories 1 through 6 into a "Metropolitan" category, and categories 7 through 10 into a "Non-Metropolitan" category.

g. District Size (Number of Schools)

Data obtained from the California Public School Directory permitted us to code districts for the number of schools that they contain. In this analysis, the actual numbers were recoded into three groups: Small Districts with 7 or fewer schools; Medium Districts containing 8 to 19 schools; and Large Districts containing more than 20 schools.

h. District Size (Staff)

Districts were asked to provide information regarding the size of their staffs. These data were grouped into three categories: Small Districts were those that employed 300 or fewer employees; Medium Districts were those that employed between 301 and 850 employees; Large Districts were those that employed more than 850 employees.

2. Fiscal, Legal and/or Special Factors That Could Influence District Ability or Will to Comply With Title IX.

a. Does the district have a designated Title IX officer?

During phone interviews just prior to both cycles of data collection, district contact persons were asked whether or not the district had a designated Title IX Officer. Responses were classified into the logical dichotomous categories: "Yes" and "No"

b. If so, what are the other duties and responsibilities of the Title IX officer?

This question was also asked during the telephone interviews. Responses were content analyzed and coded into the following categories: (1) Superintendent; (2) Other District Administrator; (3) Principal or Assistant Principal; (4) Curriculum Coordinator; (5) Teacher and/or Coach; (6) Multiple Duties/Titles.

c. Workload of the Title IX Officer

Questions a and b above were also recoded into a variable that would reflect the number of extra duties that the Title IX officer had within the district. Since no districts in the sample had a full-time Title IX officer, the data were recoded into the following categories: (1) Title IX officer is part-time with one other job; (2) Title IX officer is part-time with more than one other job; (3) Not applicable; there is no Title IX officer.

d. Title IX Officer Daily Time Commitment

During the post-treatment cycle of data collection, district Title IX officers were asked how much time they devoted to their job as Title IX officers. Responses were content analyzed and grouped into the following categories: (1) Adhoc; time varies according to need; (2) One to four hours/day; (3) More than four hours/day.

e. Amount of Prior Equity Activity

During the telephone interviews with district contact persons prior to the first cycle of data collection, districts were asked whether they had ever had any direct involvement with any of the training and technical assistance projects devoted to fostering Title IX compliance. A few districts had had contact with more than one project in the past. This information was coded into a "Prior Activity" variable according to the following criteria. Districts that had been full participants in any of the various projects were coded into the category, "Considerable Prior Equity Activity." Those that had never belonged to such projects but that had attended a workshop on Title IX, or that could, at least, name a few of the projects, were coded into a "Minimal Prior Activity" category. Those that had never belonged to an equity project and that could not name any such projects were coded into a "None" category.

f. Complaint Status

During the telephone interview preceding each cycle of data collection, the district contact person was asked whether or not the district was now or ever had been under complaint from the Office For Civil Rights for violation of Title IX. Responses were grouped into three categories: (1) Presently under complaint; (2) Previously was under complaint, but not presently; (3) Never has been under complaint.

g. Grievance Status (Pre-Treatment)

During the telephone interview preceding the first cycle of data collection, district contact persons were asked whether or not the district had ever had to resolve a Title IX grievance. Responses were content analyzed and classified into three categories; (1) Yes, a formal grievance (or more than one grievance) had been lodged and resolved; and (2) Yes, an informal grievance (s) had been lodged and resolved; and (3) No grievance had ever been lodged.

h. Number of grievances filed during participation in CCSEE project

During the telephone interview preceding the post-treatment cycle of data collection, the district contact person was asked whether any grievances had been filed since the pre-treatment cycle of data collection two years earlier. Responses were coded dichotomously as "Yes" or "No".

i. Impact of revenue reductions caused by the passage of Proposition 13

During the telephone interviews preceding the post-treatment cycle of data collection, district contact persons were asked to describe the programmatic impact of revenue reductions sustained as a result of the passage of Proposition 13 (legislation which passed immediately before the inauguration of this study). Responses were content analyzed and coded into the following categories: (1) Little or no impact; (2) Modest impact (i.e., reduction in lower classified personnel, reduction in a few special services, etc.; (3) Severe impact (i.e., teacher layoffs, elimination of programs, etc.).

j. Is district currently involved in Project Equity?

Project Equity, one of the parent agencies of the California Coalition for Sex Equity in Education, is the Sex Desegregation Assistance Center for Region IX. As such, it has extensive connections to districts in the target area of this study. Naturally, involvement with Project Equity disqualified districts from being in the Control Group of this study;

however, a few districts in the Experimental Group were currently "enrolled" in Project Equity. Experimental Group districts are coded dichotomously on this variable.

k. Incidence of labor conflict

CCSEE anticipated that there may be certain special conditions that would make it more difficult for particular districts to make progress toward Title IX compliance. One such "special" condition would be labor conflict---particularly a strike (or similar disruption of the educational process). During the telephone interview preceding the post-treatment cycle of data collection, district contact persons were asked whether such labor conflict had taken place during the two years of involvement in the CCSEE study. Responses were coded dichotomously.

l. Incidence of major changes in district administration

Another special condition which introduces (or at least signifies) turbulence in school systems is a sudden change in school board or superintendent. This information was also solicited during the post-treatment telephone interview with the district contact persons. Again, responses were coded according to the simple dichotomous "Yes" or "No" division.

m. Incidence of major changes in staffing patterns

Sometimes as a concomitant to changes in district administration, school districts are beset by sudden and major changes in staffing arrangements. Sometimes this takes the form of staff reassignments, sometimes of staff reductions. During the post-treatment telephone interview, contact persons were asked whether this had happened during the two years of involvement in the CCSEE study. Responses were coded "Yes" and "No" accordingly.

n. Power postion of contact person

CCSEE was interested to know whether change is facilitated by establishing direct contact between the project and the top levels of school district administration. To keep track of this variable, CCSEE obtained information on the position or title of all contact persons. This was then coded into ordinal categories, as follows: (1) Superintendent or Assistant Superintendent; (2) Member of the Superintendent's cabinet (but not the Superintendent or the Assistant Superintendent); (3) Not a member of the cabinet, but works directly with a member of the cabinet.

3. Organizational Climate Factors

These variables tried to tap the more ethereal attitudinal and institutional factors that (theoretically) could influence the dependent variable. As noted in the Literature Review, our ability to measure these factors was hampered by a paucity of appropriate tools. However the more simple-minded approaches taken here may still prove illuminating.

a. Staff Attitudes Toward Federal Programs

During the telephone interviews preceding both cycles of data collection, district contact persons were asked the following question: "How would you characterize the staff's attitudes toward federal programs in your schools?" Responses were classified into the following categories:
(1) Generally supportive; (2) Neutral; (3) Generally opposed:
(4) Mixed.

b. Community Attitudes Toward Federal Programs

During the telephone interview preceding the pre-treatment cycle of data collection, the district contact persons were asked the following question: "How would you characterize the community's attitudes toward federal programs in your schools?" Responses were classified into the following categories: (1) Generally supportive; (2) Neutral; (3) Generally opposed; (4) Mixed.

c. Staff Attitudes Toward Sex Equity and Title IX

During the telephone interview proceding the first cycle of data collection, the district contact persons were asked the following question: "To what extent do you think the staff supports the sex equity thrust of Title IX?" Responses were classified into the following categories: (1) Generally supportive; (2) Neutral; (3) Generally opposed.

d. Community Attitudes Toward Sex Equity

During the telephone interview preceding both cycles of data collection, the district contact persons were asked the following question: "To what extent do you think the community supports the sex equtiy thrust of Title IX?" Responses were classified into the following categories: (1) Generally supportive; (2) Neutral; (3) Generally antagonistic; (4) Mixed.

e. District's Native Propensity Toward Innovation

CCSEE defined the innovative district as one that is the first or early user of an innovative approach to the problem or an educational program. To put this definition into operation, district contact persons were asked the following questions during the telephone interview preceding the post-treatment cycle of data collection: "Has the district sought incentive funding under Title IV and/or the School Improvement Funds", and "Has the district sought any other Federal Funds of an innovative nature?" Since over 90% of the districts in the sample responsed affirmative to the first question, it was rejected as unable to detect innovation. Responses to the second question were more evenly divided: .515 affirmative and .485 negative. While this is no guarantee that the question tapped innovation as defined, it was at least taken as an indicator of innovation.

Hence, "Yes" responses were coded as "Innovative," while "No" responses were coded as "Not innovative."

f. District's Native Inclination to Support Title IX

This, in effect, is a variant of the innovation dimension described. In this case, however, we attempt to assess the district's propensity toward sex equity innovation, as distinct from innovation in general. During the telephone interviews preceding the post-treatment cycle of data collection, the district contact persons were asked the following question: "In what year did your district adopt a formal policy of Title IX compliance?" Since districts were legally required to adopt such policies exactly four years ago (1976), districts that responded "1976" were coded as "Legal"; districts that cited years prior to 1976 were coded "Avant Garde"; and districts that cited years since 1976 were coded as "Laggards".

g. Median Age of Teaching Staff

Since most districts do not have readily available data on the distribution of staff ages. CCSEE again was forced to rely upon a survey approach to the measurement of this variable. During the telephone interview preceding the post-treatment cycle of data collection, district contact persons were asked to estimate the median age of the teaching staff of the district. Responses ranged from "29" to "52." These responses were grouped into two categories: "Younger/Age Less than 40" and "Older/Age 40+."

h. Average Tenure of Teaching Staff

During the telephone interview preceding the post-treatment cycle of data collection, district contact persons were asked to estimate the average tenure of the teaching staff of the district. Responses ranged from "3 years" to "25 years." These responses were grouped into two categories: (1) "New Staff/Tenure of fewer than 10 years" and (2) "Stable Staff/Tenure of 10+ years."

i. District Efficiency and Organization

After two years of contact with the school districts, the CCSEE Co-Directors, each of whom had had responsibility for liaison with districts in her geographic region and supervised project consultants who provided services to those districts, rated the districts according to the following Likert item:

> In your efforts to coordinate activities with this district, the district has appeared to be well-organized (i.e., appointments have been kept as planned, there has been quick responses to initiatives, etc.).

Agree	Moderately Agree	Neutral	Moderately Disagree	Strongly Disagree
1	2	3	4	5

It should be noted that the Co-Directors made these ratings without any information on "Gain Scores" that had been obtained by comparing the pre-treatment and post-treatment scores of the districts on the CCSEE Title IX Assessment Instrument. For data analyses purposes, responses 1 and 2 were recoded as "Organized"; responses 3 was recoded as "Average"; and responses 4 and 5 were recoded as "Less organized".

j. District "Red Tape"

Using the same procedure described above, the Co-Directors rated their respective districts in response to the following query:

> Regarding "red tape", would you say that this district's administrative apparatus is cumbersone (to the extent that even changes strongly desired by the administration take a long time to implement)?

Very Cumbersome Apparatus	Somewhat Cumbersome Appratus	Average	Somewhat Flexible Apparatus	Very Flexible Apparatus
1	2	3	4	5

For data analysis, responses 1 and 2 were recoded as "Cumbersome"; response 3 was recoded as "Average"; response 4 and 5 was recoded as "Flexible".

k. Formal/Personalistic Continuum of Districts

Again, using the same procedure described above, the Co-Directors rated their respective districts in response to the following stimulus:

> Most organizations can be characterized as both formal/interpersonal/bureaucratic systems and as personalistic networks of individuals. In some organizations, changes take place "by the book" (i.e., according to highly codified procedures); in others, changes are more likely to happen as a result of the efforts of particular key individuals who wield special authority (i.e., who "make" the system work the way they think it should). How would you characterize this district?

Pretty Much A Formal (Codified) Organization		Average: A Blend of Formal and Personalistic Elements		More Personalistic System in which Key Individuals "Pull the Strings"
1	2	3	4	5

For data analysis, responses 1 and 2 were recoded as "Formal"; response 3 was recoded as "Average/Blend"; responses 4 and 5 were recoded "Personalistic".

We used the same procedure again to try to assess the degree of teamwork (i.e., the "climate of democracy") within districts. Co-Directors rated their respective districts in response to the following question:

> On the basis of your contact with the district, would you say that it is characterized by a high degree of democracy and teamwork (i.e., Are Planning responsibilities widely shared? Are the judgements of people in lower echelons respected? Do initiatives for change flow from both the top and bottom of the administrative structure?).

More Democratic (More teamwork)		Average		More Autocratic (Less teamwork)
1	2	3	4	5

In data analysis, responses 1 and 2 were recoded as "Democratic", while responses 3, 4, and 5 were recoded as "Autocratic".

m. Morale of District Staff

Again, we assumed that the Co-Director's working contact with various staff members from client districts (as well as their discussions with consultants who had provided workshops or technical assistance on site at those districts) would equip them to make global judgements about the morale of the district staffs. Such judgements were solicited by the following item:

On the basis of your contact with the district, would you say that the staff's morale is good or poor? (i.e., Do staff feel that the administration is fair? Do staff feel well-rewarded for their efforts? Do staff take pride in the district's standard of professional performance? Are employees relatively happy with their jobs? Is there high turnover or absenteeism?)

Morale is:

Very High	Sort of High	Average	Somewhat Low	Quite Low
1	2	3	4	5

For data analysis, responses 1 and 2 were recoded as "Higher"; response 3 was coded as "Average"; responses 4 and 5 were recoded as "Lower".

n. District Eagerness

Following the same procedure, Co-Directors rated their respective districts as follows:

In general, would you say that this district's administration has been eager to work with the Project, or have they been more cautious and wary?

Very Eager	Moderately Eager	Average	Somewhat Cautious	Elusive/ Avoidant
1	2	3	4	5

o. Staff Satisfaction with Educational Program

During the telephone interview preceding the post-treatment cycle of data collection, contact persons were asked to rate the district teaching staff's overall satisfaction with the educational program of that district. Responses were classified as "Satisfied" or "Dissatisfied".

4. Levels and Types of Treatment

CCSEE made an attempt to classify districts according to their levels and types of treatment. Hence, although the fundamental "treatment" variable in the study was dichotomous ("Experimental" vs. "Control"), more variegated "treatment variables" were considered.

a. Treatment Approach Selected by District

At the beginning of the study, all experimental districts were given three "treatment approach" options. Approach "A" allowed districts to specify exactly what needs they had and what services they desired from the project. In other words, Approach "A" gave districts complete choice in their use of available programmatic treatments, but it gave them less guidance from the project. Approach "B" was exactly the opposite; districts choosing Approach "B" chose to have their treatment and services completely designed by the project as a sort of pre-structured package deal. Approach "C" offered a blend of the preceding two approaches; that is, districts taking this approach negotiated their treatment with the project, taking its advice but also exercising their own prerogatives. Districts were coded according to their choice of treatment approaches.

b. Number of Discrete Service Activities Performed

Consultants who provided service to experimental group districts varied in the number of activities that they attempted and in the variety of topics that they covered. To try to keep track of this treatment variable, service records submitted by the consultants were inspected and a tally was taken of the number of discrete activities provided for districts in the following areas:

1. Awareness
2. Diagnosis
3. Technical Assistance
4. Consultation
5. Team Building
6. Materials Selection
7. Resource Linkage/Networking
8. External (Legal) Pressure

For data analysis purposes, districts that had no activities in any given area were coded as "None" for that area; districts that had two or more discrete activities in any given areas were coded as "Little Exposure" for that area; districts that had two or more discrete activities in any given areas were coded as "Stronger Emphasis" for that area. Thus, districts received ratings of activities for each of the eight areas.

c. Sum of Discrete Activities

It is possible that no particular activity (such as those noted above) leads to greater progress toward Title IX compliance, but that the net effect of the aggregate number of activities can be observed. To explore this possibility, the total number of discrete activities performed in all of the above mentioned eight areas were tallied. Districts that had received two or fewer activites were coded as "Few Activities"; districts that had received between three and five activities were coded as "Modest Amount"; districts that had received six or more service activities were coded as "Lots".

d. Mode of Service Delivery

It is possible that either training workshops or technical assistance is more effective in helping districts. To explore this possibility, service and fiscal records were reviewed to determine how many consultant-days had been expended in either training/workshop activities or in technical assistance activities for each experimental group district. Where no consultant days had been expended, districts were coded "None"; districts that had received between .5 and 1.5 consultant days were coded "Some"; districts that received 2 or more consultant days either of training or of technical assistance were coded as "Emphasis".

e. Content Emphasis of Services

It is natural to wonder whether the areas of growth in Title IX compliance correspond to the topical areas in which service was provided. Again, service and fiscal records were reviewed and tallies made of the number of consultant days committed to activities in the different areas of Title IX. Hence, tallies were taken for level of consultant effort in:

(1) Minimal Compliance
(2) Access to Courses
(3) Access to Non-Academic Activities
(4) Physical Education
(5) Athletics
(6) Employment
(7) General Awareness
(8) Other

Districts that received no consultant services in a given area were coded as "None"; districts that received between .5 and 1.0 consultant days in a given area were coded as "Modest Amount"; districts that received more than 1 day of consultant time in a given area were coded as "Emphasis".

Marginal frequencies for all variables defined in this chapter are presented in the following table, Table 3.3.

Table 3-3

Marginal Frequencies*

VARIABLE	CATEGORIES	P. Control (N=12)	P. Exper. (N=21)	P. Total (N=33)
Organizational Type	High School District	.333	.143	.212
	Unified District	.333	.619	.515
	Elementary District	.333	.238	.273
Poverty Level in District (% AFDC in District)	Highest Third	.250	.286	.273
	Medium	.583	.429	.485
	Lowest Third	.167	.286	.242
Percent Minority in District	High	.250	.428	.364
	Medium	.167	.238	.212
	Low	.583	.333	.424
District Enrollment Size (ADA)	Small (0 to 5,000)	.667	.524	.567
	Medium (5,001 - 10,000)	.250	.333	.303
	Large (10,000 +)	.083	.143	.121
Geographic Area of State	Bay Area	.417	.333	.364
	Sacramento and Far North	.500	.238	.333
	Southern California	.083	.429	.303
Metropolitianism	Metropolitan	.609	.462	.556
	Non-Metropolitan	.391	.538	.444
District Size (# of schools)	Small (1 - 7)	.750	.476	.576
	Medium (8 - 19)	.167	.333	.273
	Large (20 +)	.083	.190	.152
District Size (# on staff)	Small (0 - 300)	.667	.524	.576
	Medium (301 - 850)	.250	.333	.303
	Large (851 +)	.083	.143	.121
Have Title IX Officer? (Post-Treatment)	Yes	.818	.905	.875
	No	.183	.095	.125
Have Title IX Officer? (Pre-Treatment)	Yes	1.00	1.00	1.00
	No	0.00	0.00	0.00

* Table excludes the three districts for which reliable scores were not obtained (see Chapter IV, Section A).

Variable	Categories	P. Control (N=12)	P. Exper. (N=21)	P. Total (N=33)
What are other duties of the Title IX officer? (Pre-Treatment)	Superintendent	.125	.158	.148
	Other District Admin.	.125	.158	.148
	Principal or Asst. Prin.	0.000	.263	.185
	Curriculum Coordinator	.125	.105	.111
	Teacher and/or Coach	.500	0.000	.037
	Multiple Positions	.500	.316	.370
What are other duties of the Title IX officer? (Post-Treatment)	Superintendent	.333	.238	.273
	Other District Admin.	.333	.190	.242
	Prin. or Asst. Prin.	.167	.143	.152
	Curr. Coordinator	0.000	.143	.091
	Teacher and/or Coach	0.000	.095	.061
	Multiple Positions	.167	.190	.182
Title IX Officer Workload (# of other job/positions) (Pre-Treatment)	One Other Assignment	.500	.684	.630
	More Than One Other Assin.	.500	.316	.370
Title IX Officer Workload (# of other job/positions) (Post-Treatment)	One Other Assignment	.833	.810	.818
	More Than One Other Assin.	.167	.190	.182
Title IX Officer Time Commitment (Hours/day)	Ad hoc/As Needed	.750	.333	.485
	1 - 4 Hours/Day	.167	.333	.273
	4+ Hours/Day	.083	.333	.242
Amount of Prior Equity Activ.	Considerable	.083	.571	.394
	Minimal	.250	.143	.182
	None	.667	.286	.424
Complaint Status (Pre-Treatment)	Presently Under Complaint	.083	.048	.061
	Prev. Under Complaint	.083	.143	.121
	Never Under Complaint	.833	.810	.818
Post-Treatment Complaint Status (# of complaints filed since last interview)	None	1.000	1.000	1.000
	1 or More	0.000	0.000	0.000
Grievance Status (Pre-Treatment)	Formal Grievance (s), Resolved	0.000	.050	.031
	Informal Grievance (s), Resolved	0.000	.150	.094
	No Grievance Described	1.000	.800	.875
Were any grievances filed during the term of the CCSEE Study	No	.750	.905	.848
	Yes	.250	.095	.152
Impact of Revenue Reductions Under Proposition 13	Little or No Impact	.500	.500	.500
	Modest Impact	.333	.250	.281
	Severe Impact	.167	.250	.219

Variable	Categories	P. Control (N=12)	P. Exper. (N=21)	P. Total (N=33)
Any Incidence of Labor Conflict?	Yes	.250	.429	.3[illegible]
	No	.750	.571	.63[illegible]
Any Major Changes in District Administration?	Yes	.583	.619	.606
	No	.417	.381	.394
Any Mojor Changes in Staffing Patterns?	Yes	.167	.143	.152
	No	.833	.857	.848
Power Position of Contact Person	Supt. or Asst. Supt.	.750	.476	.576
	Member of Supt.'s Cab.	0.000	.286	.182
	Not Member of Cabinet, But Works Directly With a Member	.250	.238	.242
Current Project Equity District	Yes		.381	
	No		.619	
Staff Attitudes Toward Federal Programs (Pre-Treatment)	Generally Supportive	.667	.810	.758
	Neutral	.083	.048	.061
	Generally Opposed	.083	.048	.061
	Mixed	.167	.095	.120
Staff Attitudes Toward Federal Programs (Post-Treatment)	Generally Supportive	.667	.810	.758
	Neutral	.083	.048	.061
	Generally Opposed	.083	.048	.06[illegible]
	Mixed	.167	.095	.12[illegible]
Community Attitudes Toward Federal Porgrams (Pre-Treatment)	Generally Supportive	.500	.375	.429
	Neutral	.167	.250	.214
	Generally Opposed	.333	.187	.250
	Mixed	0.000	.187	.107
Staff Attitude Toward Sex Equity and Title IX (Pre-Treatment)	Generally Supportive	.750	.700	.719
	Neutral	.167	.150	.156
	Generally Opposed	.083	.150	.125
Staff Attitude Toward Sex Equity and Title IX (Post-Treatment)	Generally Supportive	.636	.905	.813
	Neutral	.273	.048	.125
	Generally Opposed	.091	.048	.063
Community Attitude Toward Sex Equity and Title IX (Pre-Treatment)	Generally Supportive	.500	.588	.556
	Neutral	.400	.176	.259
	Generally Opposed	.100	.059	.074
	Mixed	0.000	.176	.111
District'sNative Propensity Toward Innovation	Innovative	.083	.762	.515
	Not Innovative	.917	.238	.485
District's Native Inclination to Support Title IX	Laggards	.500	.300	.375
	Legals	.500	.450	.46[illegible]
	Avant Garde	0.000	.250	.15[illegible]

Variable	Categories	P. Control (N=12)	P. Exper. (N=21)	P. Total (N=33)
Median Age of Teaching Staff	Younger/Age LT 40	.273	.524	.438
	Older/Age 40+	.727	.476	.562
Average Tenure of Teaching Staff	New Staff	.250	.476	.333
	Older/Stable Staff	.750	.523	.667
District Efficiency and Organization	Organized	.728	.619	.656
	Average	.182	.095	.125
	Disorganized	.091	.286	.218
District "Red Tape"	Cumbersome	.364	.250	.290
	Average	.000	.200	.129
	Flexible	.636	.550	.581
District Formalism/Personalism Continuum?	Formal (codified) organ.	.167	.095	.121
	Average/blend	.500	.429	.455
	Personalistic	.333	.476	.424
District Democracy/Autocracy	More Democratic	.400	.400	.400
	More Autocratic	.600	.600	.600
Staff Morale	Higher	1500	.286	.364
	Average	.333	.428	.394
	Lower	.167	.286	.242
Staff Satisfaction with Educational Program	Satisfied	.833	.905	.879
	Dissatisfied	.167	.095	.121
Eagerness to Work With Projects	Very Eager	.167	.238	.212
	Moderately Eager	.167	.381	.303
	Average	.167	.143	.152
	Somewhat Cautious	.333	.143	.212
	Elusive/Avoidant	.167	.095	.121
Self-Selected Treatment App.	"A": District-Designed		.095	
	"B": Project-Designed		.238	
	"C": Negotiated		.667	
Treatment	Experimental Group	0.000	1.000	.636
	Control Group	1.000	0.000	.367

		No Activ. (None)	A Little Exposure (Some)	Stronger Emphasis (Emphasis)	N
Number of Discrete Service Activities (Experimental Only)	Awareness	.286	.333	.381	21
	Diagnosis	.381	.476	.143	21
	Technical Assistance	.429	.381	.190	21
	Consultation	.571	.429	0.000	21
	Team Building	.714	.191	.095	21
	Materials Selection	.476	.381	.143	21
	Resource Linkage/Network	.333	.524	.143	21
	External (legal) Pressure	.952	.048	0.000	21

	Few	Modest	Lots	N
Sum of Discrete Activities	.143	.429	.429	21

		None	Little	Emphasis	N
Mode of Service Delivery (by # of Consultation Days)	Training Workshops	.286	.571	.143	21
	Technical Assistance	.143	.571	.286	21

		None	Little	Emphasis	N
Content Emphasis of Services (by # of Consultation Days)	Minimal Compliance	.476	.429	.095	21
	Access to Courses	.476	.476	.048	21
	Non-Academic Activities	.810	.190	.000	21
	Physical Education	.571	.381	.048	21
	Athletics	.714	.286	.000	21
	Employment	.810	.190	.000	21
	General Awareness	.619	.238	.143	21
	Other	.810	.190	.000	21

CHAPTER IV

Results: The Validity and Efficacy of the Measure of Dependent Variable

A. Interview Guide Items and Procedure

1. Verification of Accuracy

On the whole, we are satisfied that the CCSEE interview procedure elicited enough specific information on the level and nature of district Title IX compliance efforts to permit raters to make valid ratings on the scales. Interviews took an average of two hours each to complete; during this time, interviewers were able to cover the necessary points, elaborate on the meaning and intention of the questions, and record specific information on district procedures. In interview situations of this type, one always must reckon with the possibility that districts, fearful of appearing to be in violation of the law, respond to questions in a less than candid fashion. In certain cases, interviewers noted on their interview guides that, on particular questions, interviewees seemed to hedge and evade specific answers; in those cases, point ratings given to the districts tended to fall somewhat (on the assumption that experienced interviewers can "read between the lines"). For the most part, however, CCSEE was satisfied that the group interview procedure provided reasonably accurate information on specific district activities.

Since no comparable quantitative measures exist to permit formal correlations, qualitative comparisons were made between information collected by the CCSEE interview procedure and that derived from any other available data sources. First, as noted in the Methods sections, eleven districts received verification site visits in May of 1980. These site visits were designed, not to provide a comprehensive view of district compliance, but to verify the information already collected in the interviews. In other words, if a district's interview had stated that school principals had collected and analyzed data on elective course enrollment patterns, the site visit sought direct verification of this from the principals; if the interview had stated that PE classes were conducted on a co-ed basis, the verification site visit went directly to the playing fields to observe the operation of the PE classes. The verification site visits provided heartening qualitative evidence that the quantifiable interview procedure had elicited accurate information. There was no evidence of global "halo effects"; that is to say, the interview procedure was able to discern uneven progress toward Title IX compliance. Hence, it was sensitive enough to know when a district had made changes in athletics, but not in PE (and so forth).

Furthermore, the mixed composition of the district teams that were interviewed served, as intended, to prevent any one element of the school system from "snowing" the interviewers. On the tapes recorded during the interviews, one hears occasional disagreement among team members--disagreement that leads to further probing questions by interviewers and to expanded clarification of specific points. The site visits revealed only one case of flagrantly erroneous information collected during the interview --- and this case was in a situation in which, contrary to prior arrangements made with the district, a team was not assembled to be interviewed. Rather, the interview was conducted only with the Superintendent (a man who had come to that district only a few months before and who had more limited information on the history and status of that district). Because our data on this district was found to be invalid, it was excluded from further data analysis in this report.

The CCSEE interview data were also compared, in some cases, to data collected by the OCV (On Campus Visitation) teams. The OCV is an intensive diagnostic assessment developed by Project SEE at the California Department of Education. The OCV, modeled loosely after school accreditation procedures, is somewhat of a "saturation" approach to diagnosis in which several trained observers visit district headquarters and individual school sites to interview school personnel and students and to observe school processes. OCV teams often spend two to three days per district and, at the conclusion of their investigation, prepare school-specific reports for the district administrations. These reports are organized around the "Commendation/Recommendation" format familiar to those who have seen school accreditation reports. As such, they provide a lot of descriptive detail that is useful to school personnel, but no measure directly comparable to that obtained from the CCSEE procedure. However the OCV data (available for the eight CCSEE districts that requested OCV's as a diagnostic service) provided an interesting check on the accuracy of the information collected by the quicker, cheaper, less thorough CCSEE interview procedure.

For the most part, the CCSEE data and the OCV data were in general accord. However, there were some discrepancies. For example, in one district, the CCSEE pre-treatment interview had indicated that all PE programs were co-ed; an OCV, conducted not too long after the pre-treatment interview, agreed that PE programs were co-ed. However the CCSEE post-treatment interview had raised suspicions among the interviewers that the district was not being entirely honest about the operation of its PE program. The verification site visit to the district conducted in May of 1980 indicated that, indeed, PE classes were a mixture of co-ed and sex-segregated. This example points up the difficulties of comparing data collected at different points in time. The pre-treatment interview and the OCV were both conducted early on in the project; the post-test and the verification site visit were both done near the end of the project; hence, either (1) the district "regressed" during the two years of the study, or (2) the early measures had, for some reason, made the district appear to be more in compliance than, in fact, it was. The fact that the discrepancies disappeared when one considered the timing of the date collection led us to believe that there actually had been a decline in the district's level of compliance in PE. Indeed our scaling/scoring procedure (which was entirely independent of the OCV and of the verification site visit) had registered a decline in this district's PE score between the pre-treatment and the post-treatment cycles of data collection; given our qualitative evidence, we believed that this score decline was not spurious.

2. Problems with the Interview Guide

In general, the OCV data and the data from the verification site visits tended to confirm the accuracy of information collected by the CCSEE interviews. However the comparisons did suggest that some caution should be taken in interpreting these data. The CCSEE interview elicited information strictly on the level of district effort to comply with Title IX. While this is suggestive of actual compliance status, it is clearly not identical to it. Change may demand more extraordinary efforts in some districts than in others. For example, small rural districts that operate on more personalistic (less formal/bureaucratic) bases may be able to make vast programmatic changes while appearing to exert little formal effort. By contrast, large urban districts may register high on a measure of "level of effort", but may show relatively fewer concrete results. For the most part, "level of effort" does correspond to "compliance status" --- however readers should keep in mind that the two are analytically distinct. (Our subsequent analyses of the data will explore the extent to which a measure of formal effort biases results in favor of large formal organizations).

A second problem with the interview guide and procedure, also uncovered by the verification site visits, could be termed the "time frame problem". The wording of the interview guide questions did not always specify the time frame about which questions were being asked. This led to some interpretive confusion. In general, the pre-treatment interview elicited information on any prior steps taken by the district to comply with Title IX or to evaluate its own status. It is unclear, however, whether the responses to the same question during the post-treatment cyle covered all prior steps taken by the districts, or merely those taken during the two years of participation in the project. Our review of the data suggests that the time frames of responses were inconsistent. Hence, some gain scores (ie. the difference between the pre-treatment and the post-treatment scores) could be deceptive. For example, a few districts had taken many steps to comply with Title IX prior to 1977 and scored relatively high on the pre-treatment rating. However the districts did not repeat their steps during the two year tenure of this study; because they answered the post-treatment interview questions in terms of the 1977-1980 period only, their post-treatment ratings were lower than their pre-treatment ratings (despite the fact that the institutional status-quo was pro-equity). In the two cases in which our validation inquiries revealed this error to be serious the unreliable scores for those districts were excluded from further analysis. However, the time-frame ambiguity might have tainted the reliability of other scores in lesser ways.

Even where the districts responded to post-treatment questions on the basis of all their prior activity, the interpretation of gain scores can be tricky. For example, one district had converted to a pro-equity curriculum even before the passage of Title IX. Although it was selected into the experimental group, it made relatively little use of the project's services. Furthermore, it did not launch any dramatic new self-evaluations or structural changes. At the time of the post-test, it responded to questions on the basis of all its prior activity --- and hence, it scored almost exactly the same score that it had on the pre-test. At one level, this is extremely accurate: There were no major changes in the district during the two years of participation in the study. At another level, however, the zero gain score is deceptive, since a careless reader could infer from it that the district was a laggard that likely was out of compliance; on the contrary, the verification site visit revealed the district to be something of a model of Title IX compliance. Its status, however, derived from its earlier activities and from the active support for equity that it enjoyed from its community and staff.

These cautionary remarks are not intended to undercut confidence in the data that we present here. Indeed, we believe that the interview procedure elicited relatively accurate and useful information on the districts in the study. It is important, however, to keep in mind that the scaling procedure attached to the interview guides was designed to measure district change (as distinct from compliance per se). Readers are encouraged to maintain this distinction while reading the results.

B. Scaling Procedures

1. Likert Scaling Procedures

As noted in the Methods section, this study employed a "dual scaling" procedure. Content-specific five-step scales had been written to correspond to each interview item; these scale steps were designed to conform to logical, sequential steps that districts might take to comply with Title IX. As such, these content-specific scales were expected to form Guttman scale patterns. However since we had no *a priori* confidence in the efficacy of these Guttman-like scales, a second, simpler, Likert-type scaling procedure was also used. In this procedure, an independent rater (ie. who had not been involved in the actual interviews) listened to the tape recordings of the interviews and made point-based ratings on level of district efforts to comply with Title IX. These Likert-like ratings formed the basis for the scale scores used as the dependent variable in this study. As noted above, qualitative comparisons have indicated that these ratings were largely accurate (except for the particular problems discussed above that led to the exclusion of one control and two experimental districts).

One modification is suggested for future attempts at the use of the CCSEE interview - Scaling Procedure: The Likert and the Guttman scales should be set apart more distinctly. In this version of the interview guide, only the content-specific Guttman-like scales were printed; the rater responsible for making the Likert-type ratings merely made a star (*) mark to indicate whether, in her judgement, the district had made an effort (ranging from "A" no effort to "E" affirmative action in evidence). Though there was no evidence that the CCSEE rater suffered from the system used here, future raters would probably find it easier to keep the content-based Guttman scales distinct from the point-based Likert scales if the two scales were physically separate on each page.

C. Guttman Scaling Procedures

Each question asked on the CCSEE Interview Guide was followed by a 5-step scale thought to reflect the logical, sequential steps that a district would take to address the area covered by that question. These sequential steps followed the same general format, to wit:

"A" District has not yet begun to study or address this issue.

"B" District has begun to study this problem by investigating written materials, regulations, requirements, etc..

"C" District has collected data on enrollment/participation/employment disparities and has identified areas that need remediation.

"D" District has further investigated the causes of the disparities and/or has taken positive programmatic steps to remove barriers.

"E" Affirmative Action in Evidence (ie. a pro-equity status-quo is in effect).

The specific wording of the scale for each interview item, of course, varied according to the content of the question itself. Interviewers were instructed to circle each applicable scale statement at the time of the interview. Hence, steps "B" through "E" formed the logical continuum that

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we hoped to discover; as such, steps "B" through "E" were subjected to scalogram analysis to determine whether they indeed had the properties of Guttman scales.

The scalogram analysis employed here is that contained in the SPSS program, based on the Goodenough technique.[1] As such, it assumes that, for a Guttman scale to exist, districts that had an "E" rating should also have had ratings of "D", "C", and "B". In matrix form, responses should follow the following pattern:

# of items circled	B	C	D	E
1	X	0	0	0
2	X	X	0	0
3	X	X	X	0
4	X	X	X	X

The Goodenough technique counts the number of responses that fall on the expected side of the matrix diagonal and the number of responses that don't (ie. the number of "errors"), and computes coefficients that indicate the extent to which a Guttman scale pattern has been obtained.

The results of our scalogram analysis of the post-test data appear in Table 41. For each interview question, four different types of analysis were conducted. In the first, all four scale items were analyzed ("B" through "E") with the predicted logical and sequential order specified a priori (labeled "Ordered" in the table).

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[1] Statistical Package for the Social Science, p. 528; also see, W.H. Goodenough, A Technique for Scale Analysis, Educational and Psychological Measurement, pp. 179-190, 1944.

The second analytic iteration omitted response "E" (Affirmative Action in Evidence), and tested only the Guttman scale properties of the "B", "C", and "D" rating sequence (all of which were based on district self-evaluation criteria more than "E"'s more ambiguous criterion of program operation). Again, the Guttman order was specified for the three item scalogram analysis.

The third row of coefficients under each interview question again presents analyses of the Guttman scale properties of the four-item ("B" through "E") scales; however here the items were not ordered a priori, but rather according to the pattern of "difficulty" observed empirically in the scale response patterns (labeled "Free" in the table).

The fourth row of coefficients under each interview question shows how the Guttman scale effort fared when only three items were considered (again, by omitting step "E") and when the order of the items was freed from a priori constraints.

The coefficients themselves are the standard fare of Guttman scale analysis. The coefficient of reproducibility provides an index of the extent to which a respondent's scale score is a predictor of one's response pattern. Mathematically it is a proportion: 1 minus the result of dividing the total number of errors by the total number of responses, or

$$C_r = 1 - \left(\frac{\Sigma e_{ij}}{n} \right)$$

In general, given the stringent requirements of scalogram analysis, only coefficients of reproducibility higher than .9 are taken to indicate a valid scale. However, when the marginals of the mattrices are skewed, the coefficient of reproducibility may become spuriously large. Hence, the second measure, the minimum marginal reproducibility shows what minimum coefficient of reproducibility would be obtained given the proportion of respondents "passing" and "failing" each of the items. In other words, the minimum marginal reproducibility is calculated by summing the maximum marginals for each item and dividing this sum by the total number of responses, or

$$M = \frac{\mathcal{S}_{ij}}{n}$$

It should be obvious that the difference between the coefficient of reproducibility and the minimum marginal reproducibility indicates the extent to which the coefficient of reproducibility is due to the marginal distribution of responses rather than the inherent cumulative interrelation of the items. This difference in proportions is presented in column 3 of Table 4 - 1 as the "% Improvement". It is merely

$$I = C_r - M$$

The last coefficient presented is an overall index of the extent to which the items conform to the Guttman scale criteria. This measure is obtained by dividing the percent improvement by the difference between 1 and the minimum marginal reproducibility, or

$$C_s = \frac{I}{(1-M)}$$

The coefficient of scalability is the ratio of the largest possible value that the percent improvement can obtain to the actual percent improvement. It varies from 0 to 1, and should be well above .6 if the scale is truly a unidimensional and cumulative Guttman scale.

Table 4-1

SUMMARY STATISTICS: POST-TEST SCALOGRAM ANALYSIS

Question	Coeff. of Reprod.	Min. Marg. Reprod.	% Improv.	Coeff. of Scalability
1. Access to Voc-Tech & Indust Courses				
a. Ordered: 4 items	.7857	.7411	.0446	.1724
b. Ordered: 3 items	.8810	.7619	.1190	.5000
c. Free: 4 items	.8750	.7411	.1339	.5172
d. Free: 3 items	.9048	.7619	.1429	.6000*
2. Access to Home Economics Courses				
a. Ordered: 4 items	.7421	.7069	.0172	.0588
b. Ordered: 3 items	.8161	.7241	.0920	.3333
c. Free: 4 items	.7931	.7069	.0862	.2941
d. Free: 3 items	.8161	.7241	.0920	.3333
3. Access to Advanced Placement				
a. Ordered: 4 items	.7813	.7109	.0703	.2432
b. Ordered: 3 items	.8333	.6979	.1354	.4483
c. Free: 4 items	.8125	.7109	.1016	.3514
d. Free: 3 items	.8333	.6979	.1354	.4483
4. Access to Business Courses				
a. Ordered: 4 items	.7679	.7589	.0089	.0370
b. Ordered: 3 items	.8333	.7500	.0833	.3333
c. Free: 4 items	.8036	.7589	.0446	.1852
d. Free: 3 items	.8571	.7500	.1071	.4286
5. Access to Special Education				
a. Ordered: 4 items	.8333	.8583	-.0250	-.1765
b. Ordered: 3 items	.8444	.8444	0.0000	0.0000
c. Free: 4 items	.8667	.8583	.0083	.0588
d. Free: 3 items	.8667	.8444	.0222	.1429
6. Access to Adult Education				
a. Ordered: 4 items	.7813	.7656	.0156	.0667
b. Ordered: 3 items	.9167	.7917	.1250	.6000*
c. Free: 4 items	.8750	.7656	.1094	.4667
d. Free: 3 items	.9167	.7917	.1250	.6000*
7. Criteria for Evaluating Instructional Materials				
a. Ordered: 4 items	.6667	.7803	-.1136	-.5172
b. Ordered: 3 items	.6566	.7778	-.1212	-.5455
c. Free: 4 items	.7727	.7803	-.0076	-.0345
d. Free: 3 items	.7980	.7778	.0202	.0909
8. Access to Extra-Curricular Clubs				
a. Ordered: 4 items	.7656	.7422	.0234	.0909
b. Ordered: 3 items	.8542	.7604	.0937	.3913
c. Free: 4 items	.8594	.7422	.1172	.4545
d. Free: 3 items	.8750	.7604	.1146	.4783
9. Access to Student Activities & Programs				
a. Ordered: 4 items	.7424	.6591	.0833	.2444
b. Ordered: 3 items	.7374	.6263	.1111	.2973
c. Free: 4 items	.7424	.6591	.0833	.2444
d. Free: 3 items	.7576	.6253	.1313	.3514
10. Access to Honors & Scholarships				
a. Ordered: 4 items	.6404	.6328	.0078	.0213
b. Ordered: 3 items	.7917	.6667	.1250	.3750
c. Free: 4 items	.7969	.6328	.1641	.4468
d. Free: 3 items	.8750	.6667	.2083	.6250*

Question	Coeff. of Reprod.	Min. Marg. Reprod.	% Improv.	Coeff. of Scalability
11. Access to Counseling Programs				
a. Ordered: 4 items	.7778	.7963	-.0185	-.0909
b. Ordered: 3 items	.8272	.8025	.0247	.1250
c. Free: 4 items	.8333	.7963	.0370	.1818
d. Free: 3 items	.8272	.8025	.0247	.1250
12. Access to Career Guidance and Placement				
a. Ordered: 4 items	.7600	.7200	.0400	.1429
b. Ordered: 3 items	.8133	.7200	.0933	.3333
c. Free: 4 items	.8200	.7200	.1000	.3571
d. Free: 3 items	.8133	.7200	.0933	.3333
13. Equity in Testing Materials				
a. Ordered: 4 items	.8500	.8667	-.0167	-.1250
b. Ordered: 3 items	.8000	.8222	-.0222	-.1250
c. Free: 4 items	.8500	.8667	-.0167	-.1250
d. Free: 3 items	.8000	.8222	-.0222	-.1250
14. Treatment of Married & Pregnant Students				
a. Ordered: 4 items	.6923	.7308	-.0385	-.1429
b. Ordered: 3 items	.7179	.7308	-.0128	-.0476
c. Free: 4 items	.7885	.7308	.0577	.2143
d. Free: 3 items	.8462	.7308	.1154	.4286
15. Equity in Rules of Behavior, Punishment				
a. Ordered: 4 items	.5909	.7500	-.1591	-.6364
b. Ordered: 3 items	.6364	.7677	-.1313	-.5652
c. Free: 4 items	.8182	.7500	.0682	.2727
d. Free: 3 items	.8990	.7677	.1313	.5652
16. Equity in Student Health & Insurance				
a. Ordered: 4 items	.5161	.7661	-.2500	-1.0690
b. Ordered: 3 items	.5699	.8065	-.2366	-1.2222
c. Free: 4 items	.8065	.7661	.0403	.1724
d. Free: 3 items	.8925	.8065	.0860	.4444
17. Revised PE Materials and Descripts?				
a. Ordered: 4 items	.7273	.6591	.0682	.2000
b. Ordered: 3 items	.7172	.6162	.1010	.2632
c. Free: 4 items	.7879	.6591	.1288	.3778
d. Free: 3 items	.7576	.6162	.1414	.3684
18. Modified PE Requirement?				
a. Ordered: 4 items	.6212	.6136	.0076	.0196
b. Ordered: 3 items	.6768	.5960	.0808	.2000
c. Free: 4 items	.7424	.6136	.1288	.3333
d. Free: 3 items	.8182	.5960	.2222	.5550
19. Implemented Co-Ed PE?				
a. Ordered: 4 items	.6970	.7121	-.0152	-.0526
b. Ordered: 3 items	.6768	.6970	-.0202	-.0667
c. Free: 4 items	.6970	.7121	-.0152	-.0525
d. Free: 3 items	.6970	.6970	0.0000	0.0000
20. Equity in PE Instruction?				
a. Ordered: 4 items	.7344	.7031	.0312	.1053
b. Ordered: 3 items	.7708	.6771	.0938	.2903
c. Free: 4 items	.7344	.7031	.0312	.1053
d. Free: 3 items	.7708	.6771	.0938	.2903

Question	Coeff. of Reprod.	Min. Marg. Reprod.	% Improv.	Coeff. of Scalability
21. Equity in PE Facilities & Resources?				
a. Ordered: 4 items	.5455	.6894	-.1439	-.4634
b. Ordered: 3 items	.4949	.6768	-.1818	-.5625
c. Free: 4 items	.7576	.6894	.0682	.2195
d. Free: 3 items	.7980	.6768	.1212	.3750
22. Expanded PE Activity Options?				
a. Ordered: 4 items	.6667	.6970	-.0303	-.1000
b. Ordered: 3 items	.6162	.6768	-.0606	-.1875
c. Free: 4 items	.6364	.6970	-.0606	-.2000
d. Free: 3 items	.6364	.6768	-.0404	-.1250
23. Equity in Treatment of PE Staff?				
a. Ordered: 4 items	.6290	.6452	-.0161	-.0455
b. Ordered: 3 items	.7204	.6559	.0645	.1875
c. Free: 4 items	.6613	.6452	.0161	.0455
d. Free: 3 items	.7419	.6559	.0860	.2500
24. Staff Movement in PE Implementation?				
a. Ordered: 4 items	.7069	.7155	-.0086	-.0303
b. Ordered: 3 items	.7011	.7011	0.0000	0.0000
c. Free: 4 items	.7069	.7155	-.0086	-.0303
d. Free: 3 items	.7011	.7011	0.0000	0.0000
25. Have Written Plan for Athletic Compliance?				
a. Ordered: 4 items	.7813	.8047	-.0234	-.1200
b. Ordered: 3 items	.7917	.8333	-.0417	-.2500
c. Free: 4 items	.8281	.8047	.0234	.1200
d. Free: 3 items	.8542	.8333	.0208	.1250
26. Involved Athletic Staff in Implementation?				
a. Ordered: 4 items	.8281	.7656	.0625	.2667
b. Ordered: 3 items	.8542	.7500	.1042	.4167
c. Free: 4 items	.8281	.7656	.0625	.2667
d. Free: 3 items	.8542	.7500	.1042	.4167
27. Equity in Athletic Equipment/Supplies/Materials				
a. Ordered: 4 items	.6774	.6210	.0565	.1489
b. Ordered: 3 items	.6989	.5914	.1075	.2632
c. Free: 4 items	.6774	.6210	.0565	.1489
d. Free: 3 items	.6989	.5914	.1075	.2632
28. Equity in Athletic Publicity & School Support				
a. Ordered: 4 items	.7500	.7109	.0391	.1351
b. Ordered: 3 items	.8333	.7292	.1042	.3846
c. Free: 4 items	.7813	.7109	.0703	.2432
d. Free: 3 items	.8333	.7292	.1042	.3846
29. Equity in Athletic Awards, Scholarships, & Recognition				
a. Ordered: 4 items	.6034	.6897	-.0862	-.2778
b. Ordered: 3 items	.6782	.7011	-.0230	-.0769
c. Free: 4 items	.7414	.6897	.0517	.1667
d. Free: 3 items	.9080*	.7011	.2069	.6923*
30. Equity in Athletic Budgets				
a. Ordered: 4 items	.7407	.7222	.0185	.0667
b. Ordered: 3 items	.7284	.6790	.0494	.1538
c. Free: 4 items	.7407	.7222	.0185	.0667
d. Free: 3 items	.7284	.6790	.0494	.1538
31. Equity in Athletic Recruitment				
a. Ordered: 4 items	.5800	.7200	-.1400	-.5000
b. Ordered: 3 items	.6533	.7600	-.1067	-.4444
c. Free: 4 items	.7600	.7200	.0400	.1429
d. Free: 3 items	.7867	.7600	.0267	.1111

Question	Coeff. of Reprod.	Min. Marg. Reprod.	% Improv.	Coeff. of Scalability
32. Equity in Treatment of Athletic Staff				
a. Ordered: 4 items	.7000	.6917	.0083	.0270
b. Ordered: 3 items	.6667	.6444	.0222	.0625
c. Free: 4 items	.8000	.6917	.1083	.3514
d. Free: 3 items	.7778	.6444	.1333	.3750
33. Equity in Written Employment Policy				
a. Ordered: 4 items	.6667	.6288	.0379	.1020
b. Ordered: 3 items	.6970	.6162	.0808	.2105
c. Free: 4 items	.7273	.6288	.0985	.2653
d. Free: 3 items	.7576	.6162	.1414	.3684
34. Equity in General Recruitment Procedures				
a. Ordered: 4 items	.6364	.6667	-.0303	-.0909
b. Ordered: 3 items	.6162	.6566	-.0404	-.1176
c. Free: 4 items	.6515	.6667	-.0152	-.0455
d. Free: 3 items	.6566	.6566	0.0000	0.0000
35. Equity in Employment Interviews				
a. Ordered: 4 items	.7813	.6875	.0938	.3000
b. Ordered: 3 items	.8750	.6875	.1875	.6000*
c. Free: 4 items	.7969	.6875	.1094	.3500
d. Free: 3 items	.8750	.6875	.1875	.6000*
36. Reviewed Gender Distribution of Employees & Established AA Plan?				
a. Ordered: 4 items	.7344	.6797	.0547	.1707
b. Ordered: 3 items	.7917	.6563	.1354	.3939
c. Free: 4 items	.7344	.6797	.0547	.1707
d. Free: 3 items	.7917	.6563	.1354	.3939
37. Equity in Health, Insurance, Fringes?				
a. Ordered: 4 items	.6719	.7188	-.0469	-.1667
b. Ordered: 3 items	.7708	.7292	.0417	.1538
c. Free: 4 items	.7188	.7188	0.0000	0.0000
d. Free: 3 items	.8125	.7292	.0833	.3077
38. Equtiy in Staff Development Programs?				
a. Ordered: 4 items	.7222	.7778	-.0556	-.2500
b. Ordered: 3 items	.7284	.7654	-.0370	-.1579
c. Free: 4 items	.7963	.7778	.0185	.0833
d. Free: 3 items	.8272	.7654	.0617	.2632
39. Equity in Pay Scales & Compensation?				
a. Ordered: 4 items	.7000	.7167	-.0167	-.0588
b. Ordered: 3 items	.8444	.7556	.0889	.3636
c. Free: 4 items	.7333	.7167	.0167	.0528
d. Free: 3 items	.8444	.7556	.0889	.3636
40. Equity in Assignment of Staff?				
a. Ordered: 4 items	.7333	.7333	.0000	.0000
b. Ordered: 3 items	.7778	.7111	.0667	.2308
c. Free: 4 items	.7667	.7333	.0333	.1250
d. Free: 3 items	.8222	.7111	.1111	.3846

A quick review of Table 4 - 1 will show that none of the content-specific scales formed true Guttman scales. Not one of the 40 separate scales met the scalability requirements of scalogram analysis. In general, the 3-item iterations fared better than the 4-item versions. This suggests that raters often felt that "affirmative action" was in evidence in districts that had not completed the various self-evaluation steps specified in the scales. Our qualitative investigation of scale response patterns indicated that the "affirmative action" response was often used as a way of giving credit to districts that seemed to have positive attitues toward equity issues, but that had only completed rudimentary self-evaluations. Hence, the "E" ratings ("affirmative action") often undermined the order implicit in the other scale steps; for example, interviewers often circled only "B" and "E". However, even the three-item iterations, though more Guttman-like, still failed to meet the scalability criteria.

One reason for the low scalability coefficients stems from the raters' tendency to circle few items (even when the tape recordings of the interviews suggested that other scale steps would have been justified and applicable). In many cases, the modal response was so dominant that it alone would provide the analyst with the best guess of any given district's response to a question. In other words, responses were not distributed evenly over the possible items. The resulting skewed marginals yielded very high coefficients of minimum marginal reproducibility which, in turn, depressed the coefficients of scalability.

This may, indeed, reflect an actual tendency of districts to make changes without much self-evaluation or planning. However, review of our data suggests that two related methodological problems may be more culpable.

First, it is possible that raters misunderstood their instructions and did not circle all applicable items. If a rater circled item "D" and assumed items "B" and "C" without actually circling them, the patterns of response would not appear to be sequential and cumulative---despite the fact that district behavior itself was sequential and cumulative. It is impossible to determine the extent to which this rater error may have undermined the Guttman scale efficacy. A second problem may have contributed to this rater tendency to circle too few items: The wording of several scales implied that the steps themselves were not independent. For example, several of the "D" items were worded as follows: "Based upon the findings in "B" and "C" above, the district has modified its policies in X.". It is possible that some raters took such items literally---circled only "D" assuming that "D" implied "B" and "C" above (despite their instructions to circle all applicable items).

It is possible that another incarnation of this effort could detect actual cumulative sequential processes by correcting these methodological flaws. In particular, if all scale items were reworded to be clearly independent of each other and if interviewer-raters were laboriously indoctrinated into the routine of marking ALL applicable items, one might obtain very different results from those presented in Table 4 - 1. As it stands, however, the effort to develop Guttman scales can only be termed abortive.

Readers who would like to puzzle further over these mysteries are referred to Appendix B, wherein can be found the raw frequencies of scale responses for the pre-treatment and post-treatment cycles, as well as the rather anomalous matrices of correlations among the scale items.

CHAPTER V

Results: The Effect of Experimental Treatment on Districts

Having randomly selected a sample of school districts, we began by comparing the pre-treatment compliance status of the experimental and control groups. As already noted in Chapter 3, Section A (Methods: Sample Selection), our sampling procedures gave us a sample that was roughly comparable in most respects, But prior to "treatments" (i.e., prior to the administration of training and technical assistance to the experimental group), were there any significant differences in the Title IX compliance status of the two groups? One answer to this question is provided by Table 5-1 which shows the mean pre-treatment scores on our Title IX Implementation Assessment Instrument for both control and experimental groups.

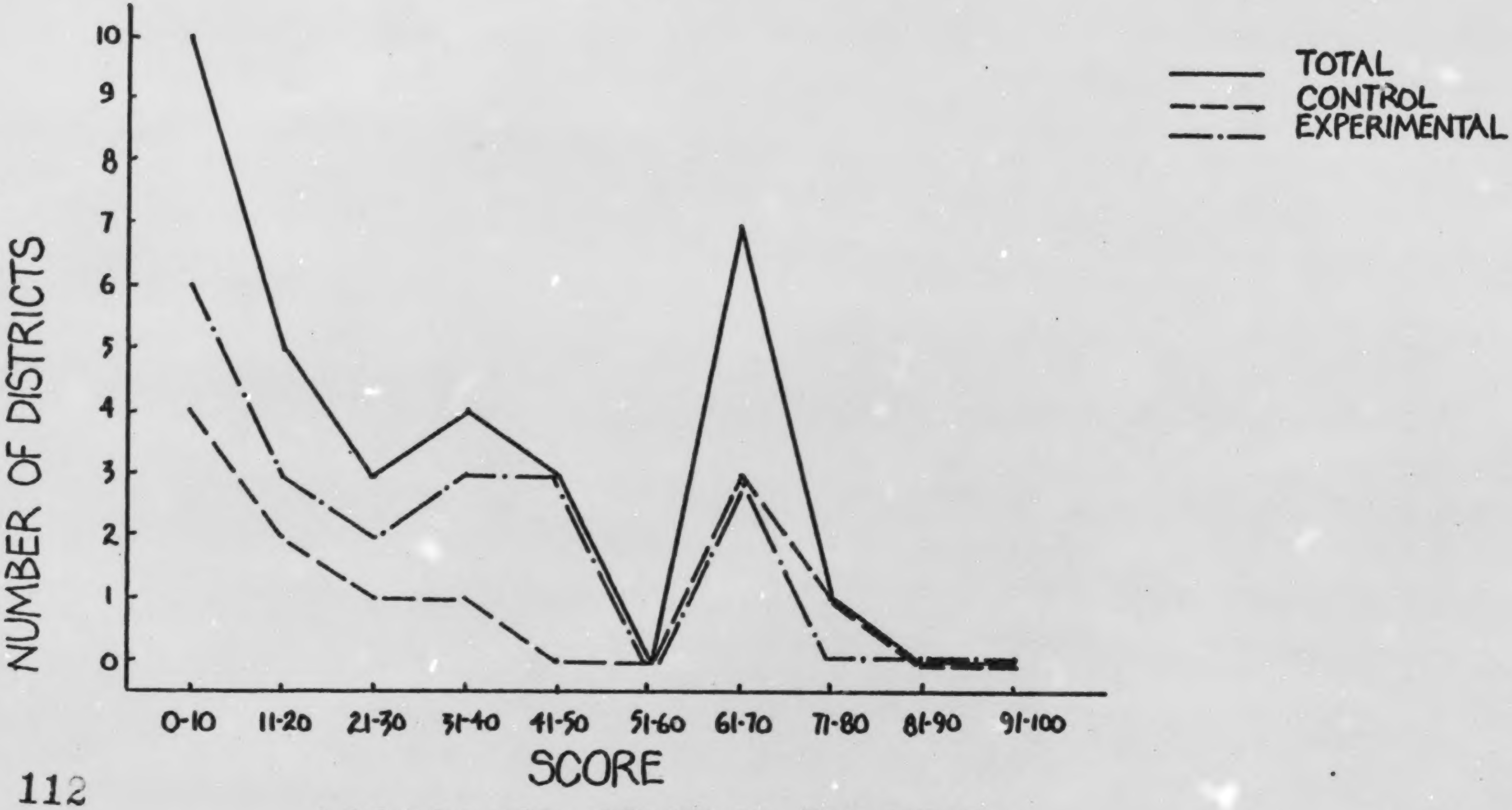
Table 5-1

Pre-Treatment Compliance Scores

Title IX Dimension	Control (N=12)		Experimental (N=21)		Combined Groups (N=33)	
	$\overline{X}$	S.D.	$\overline{X}$	S.D.	$\overline{X}$	S.D.
Access to Courses	29.4	28.8	28.5	22.4	28.8	24.4
Non-Academic Activites	30.9	23.7	32.0	20.8	31.6	21.5
Physical Education	41.0	28.8	40.3	21.5	40.6	24.0
Athletics	37.4	24.9	25.4	18.9	29.8	21.7
Employment	36.8	24.1	34.0	22.3	35.0	22.6
Minimal Compliance	46.3	22.4	53.1	22.3	50.6	22.2
Total Score (All	221.6	123.8	213.3	103.4	216.3	109.4

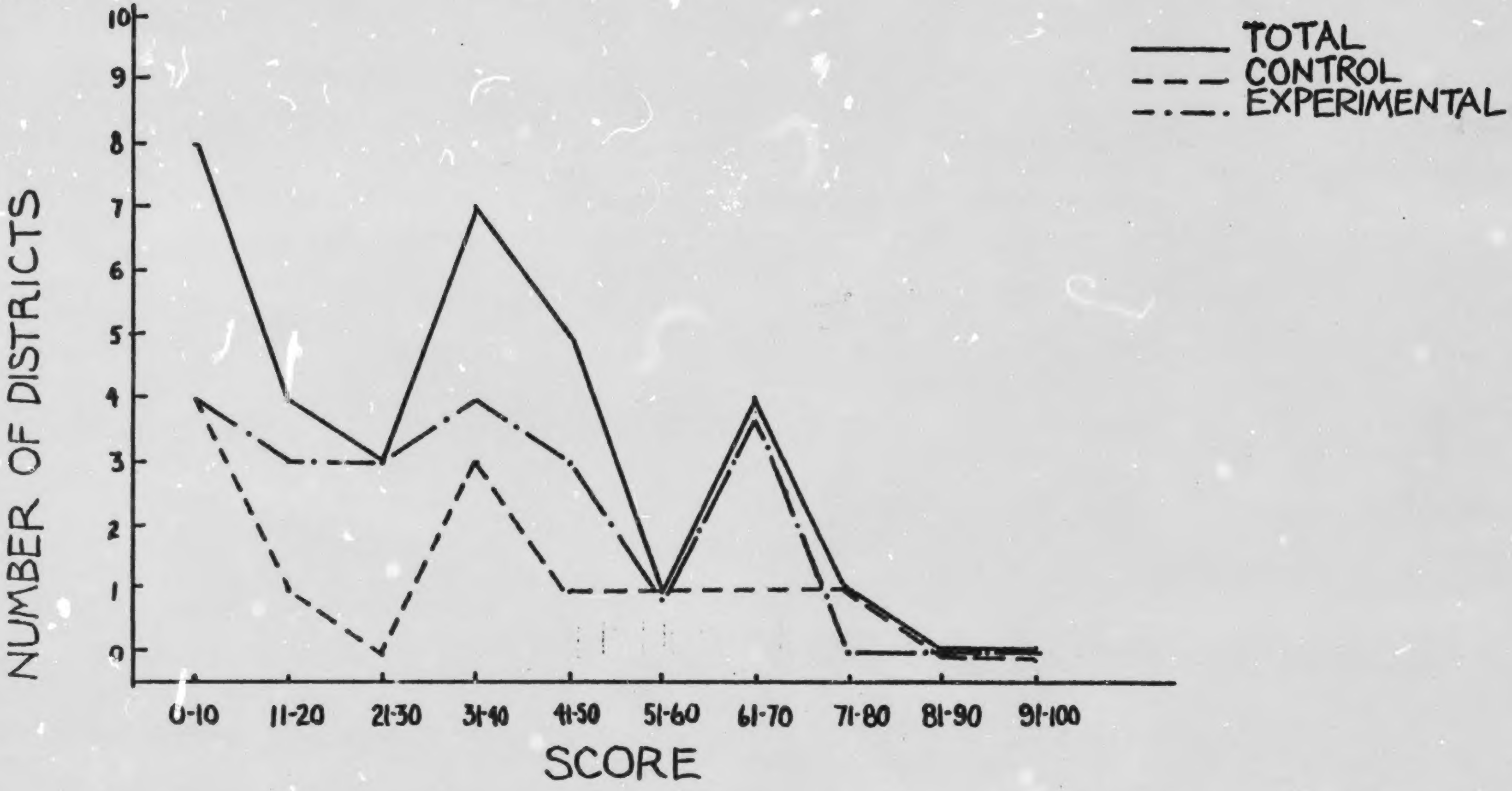
Table 5-1 indicates that there were no substantial score differences between the experimenal and control groups at the outset. Indeed, in the areas of "access to courses", "physical education", "athletics", "employment", and "total score", the control group had a slightly higher pre-treatment score than did the experimental group. Interpretation of these mean scores, however, can be quite risky--- especially given the large standard deviations. This wide dispersion of scores around the means suggest that we ought to examine the distribution of scores more closely. These distributions, for each dimension of Title IX, are presented in Figures 5-1, 5-2, 5-3, 5-4, 5-5, 5-6, and 5-7.

FIGURE 5-1



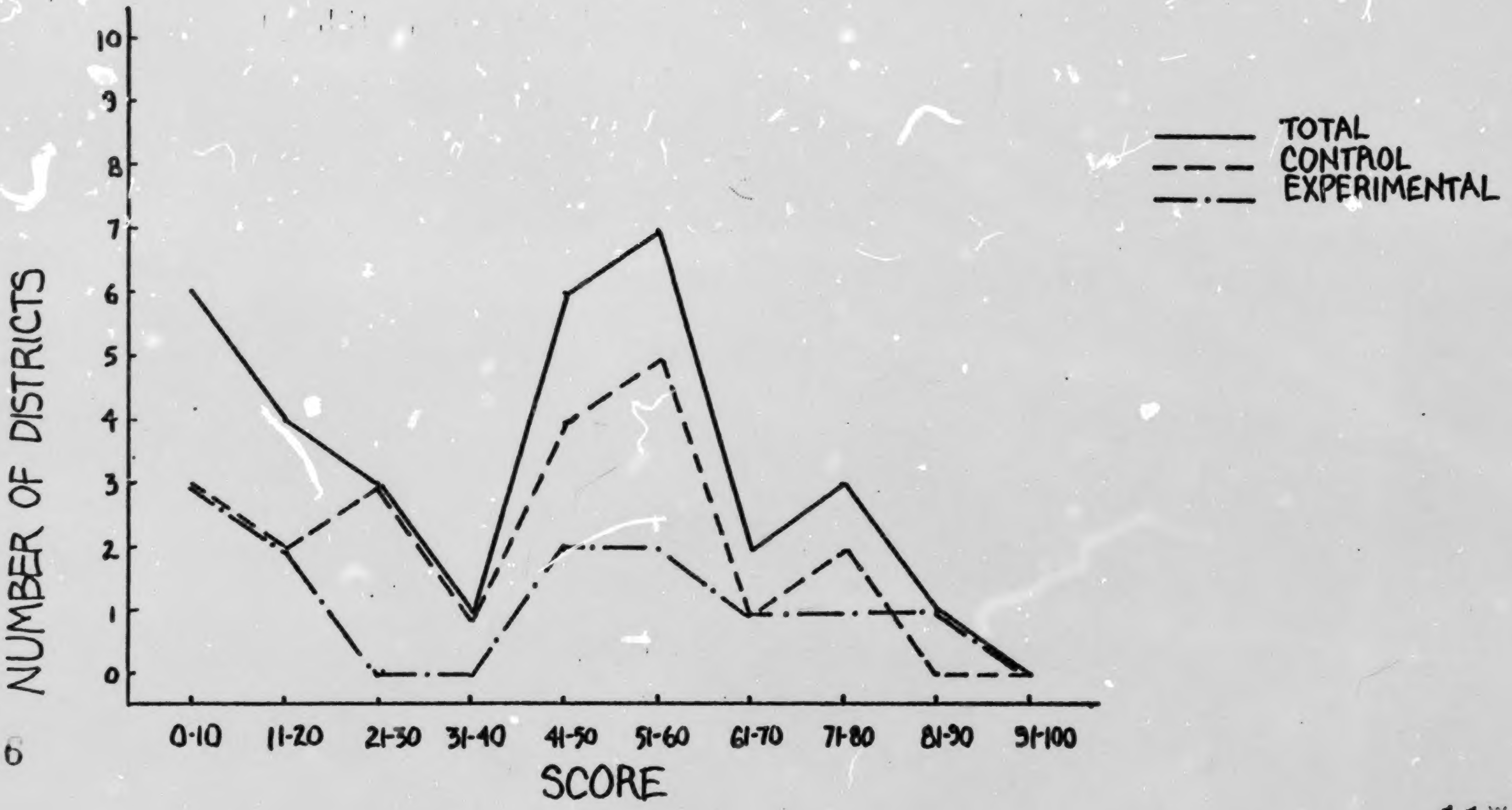
ACCESS TO COURSES-PRE TEST

FIGURE 5-2



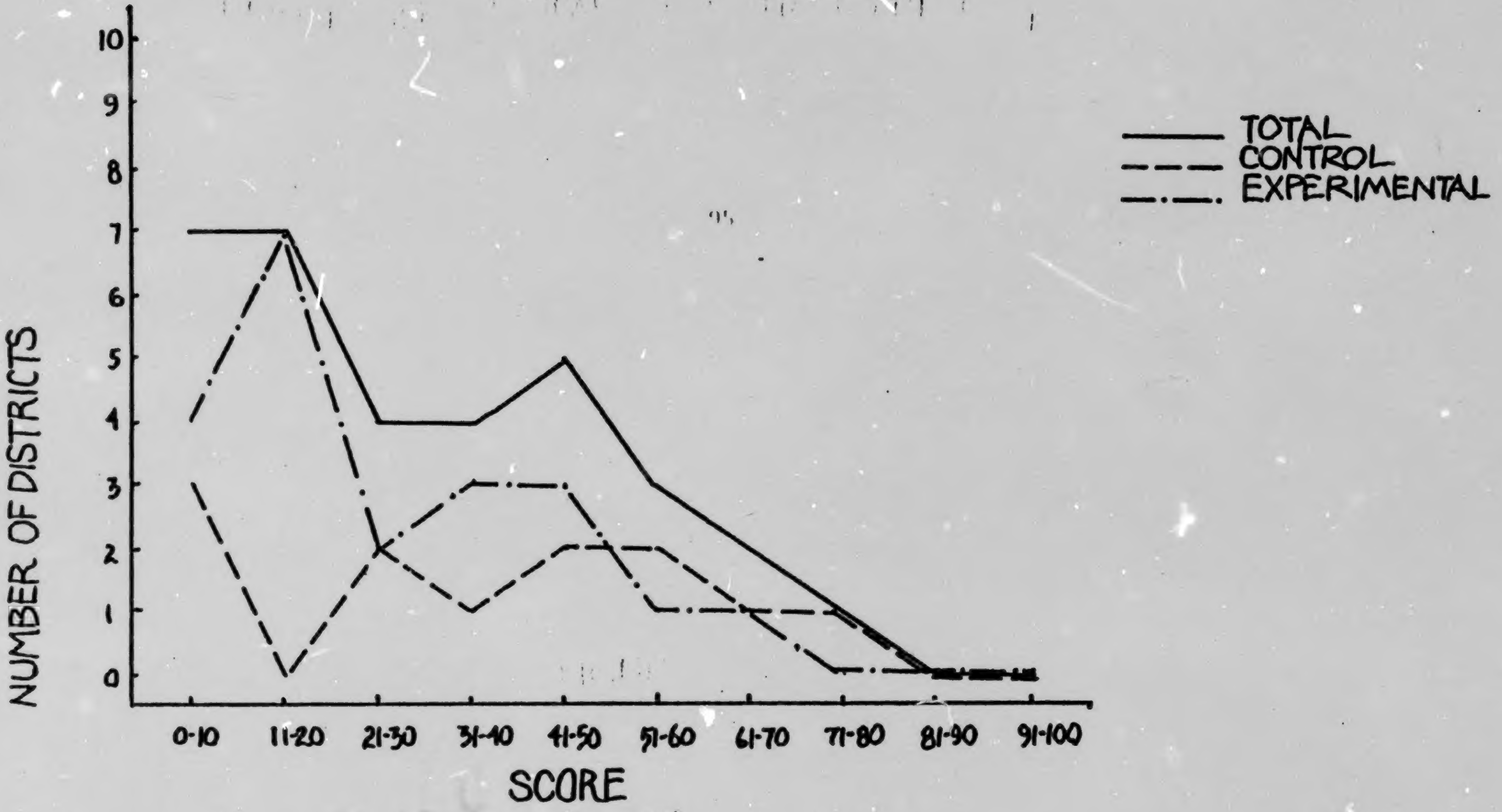
EQUITY IN NON-ACADEMIC ACTIVITIES—
PRE-TEST

FIGURE 5-3



EQUITY IN PHYSICAL EDUCATION-PRE TEST

FIGURE 5-4



EQUITY IN ATHLETICS—PRE TEST

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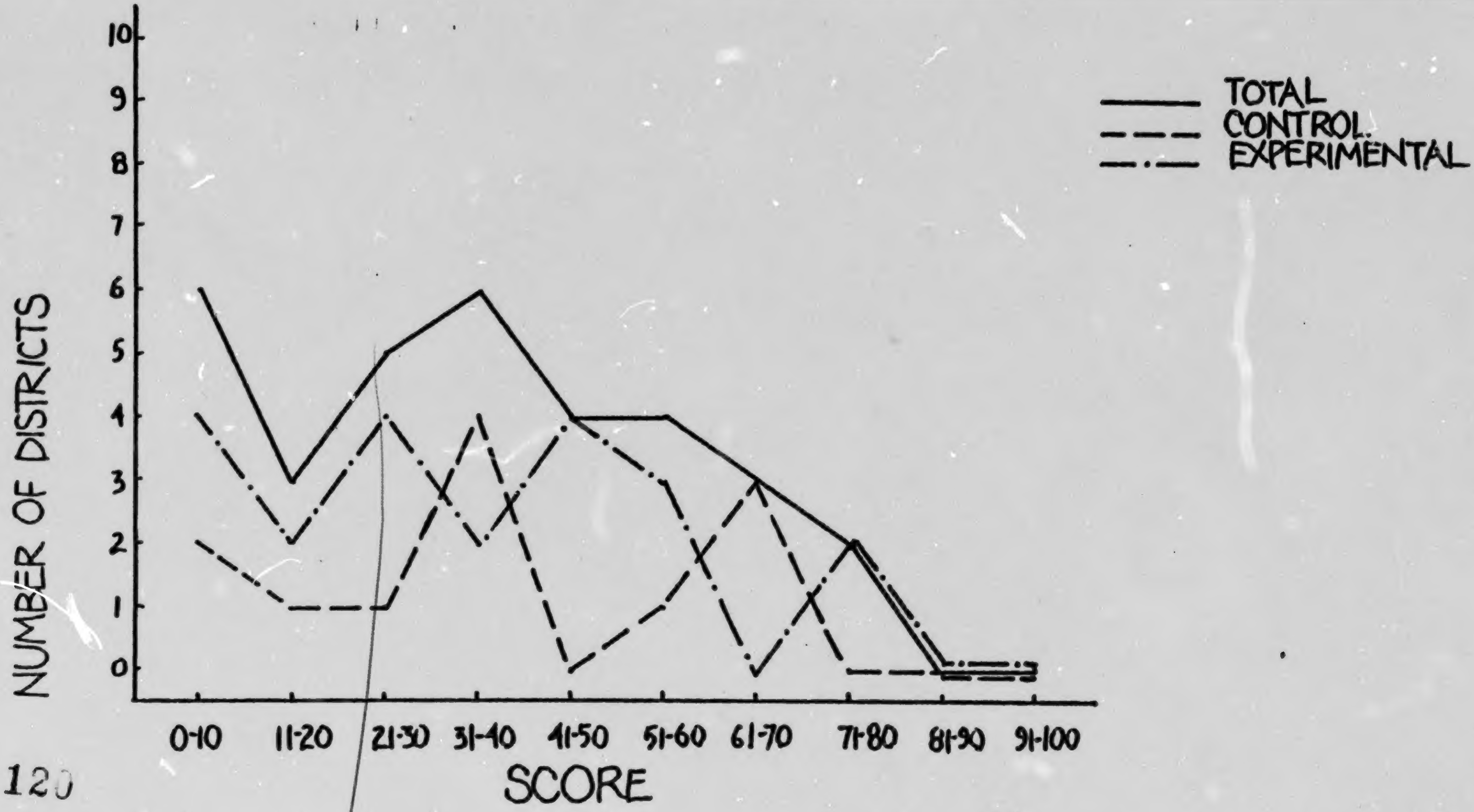
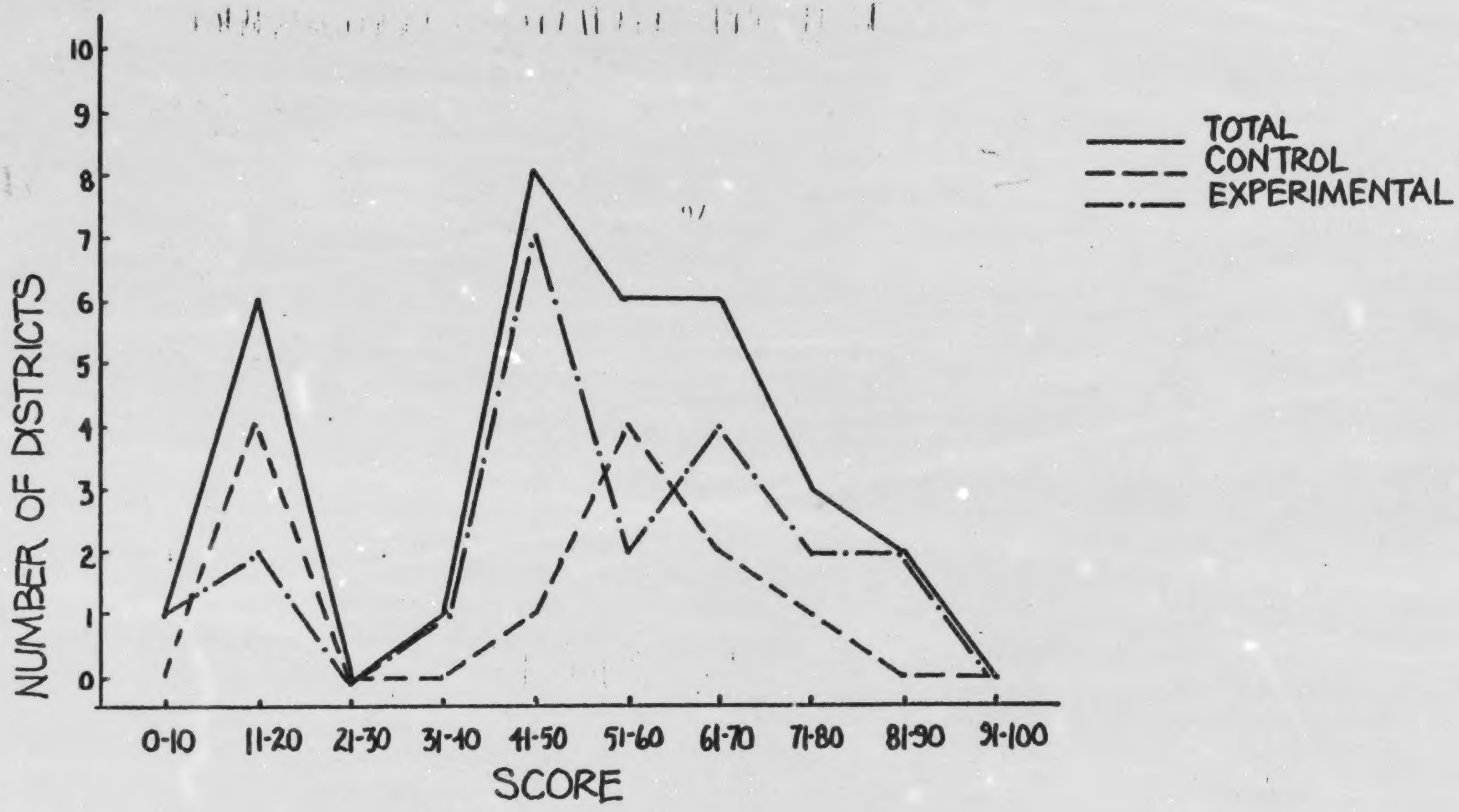
FIGURE 5-5



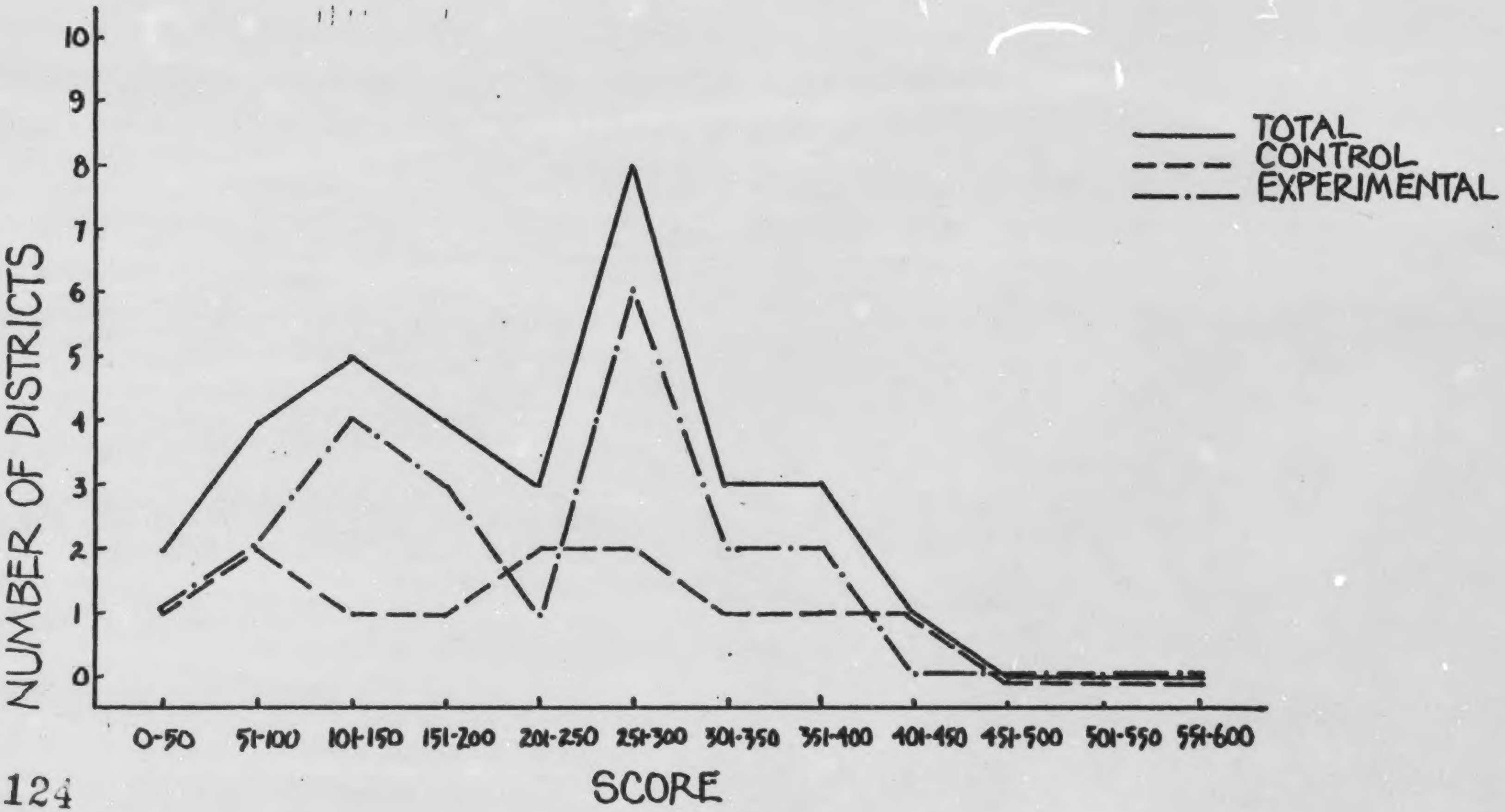
EQUITY IN EMPLOYMENT—PRE TEST

FIGURE 5-6



MINIMAL COMPLIANCE-PRE-TEST

FIGURE 5-7



TOTAL TITLE IX IMPLEMENTATION ASSESSMENT
SCORE—PRE TEST

In nearly every case, the shape of the score distributions for experimental and control groups is quite similar. (The one exception is in the "athletics" dimension where the control group has the initial advantage). Note, however, that these distributions do not at all resemble the friendly bell-shaped curve, hallmark of the normal distribution. It is possible, of course, that with a considerably larger sample, the shape of these distributions actually would approach normalcy. However, our smaller sample more closely resembles a bimodal distribution. Hence, the means reported in Table 5-1, easily influenced by extreme scores, will not give us the most reliable measures of central tendency for these distributions. Furthermore, since we cannot justify the assumption of normalcy for these distributions, the familiar T-test for differences between groups is inappropriate. Instead, we shall use the non-parametric Mann-Whitney U-Test, a statistical procedure that compares the rankings of scores from the two groups. In the Mann-Whitney U-test, the actual scores are discarded in favor of the score rankings, thus providing a test that is not affected by skewness or any other distributional peculiarity (i.e., a distribution-free test). As such it is not distorted by extreme scores, and it has demonstrated high asymptotic relative efficiency (relative, that is, to the T-test for difference of means), even when samples are small and populations are not normal.[1] Briefly, the test arrays all scores in rank order, converts scores to those ranks, then provides a sum of ranks for both groups (the statistic U). An approximation of the standard normal variable, Z, is then computed as expected:

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[1] See e.g., Thomas J. Wonnacott and Ronald J. Wonnacott, Introductory Statistics for Business and Economics, New York: John Wiley and Sons, 1972.

$$Z \simeq \frac{U-(N_1-N_2)(N+1)/2}{\sqrt{N_1N_2(N+1)/3}}$$

Probability values that flow from this procedure give us the best (most efficient) estimate of whether the differences between groups are statistically significant. Table 5-2 presents the results of the Mann-Whitney U-Test for differences between the pre-treatment control and experimental groups.

Table 5-2

Mann-Whitney U-Test for Differences Between
Experimental and Control Groups, Pre-Treatment

	Mean Rank				
Title IX Dimension	Control (N=12)	Experimental (N=21)	U	Z	2-Tailed P-Value
Access to Courses	16.96	17.02	125.5	-0.019	.985
Non-Academic Courses	16.87	17.07	124.5	-0.056	.955
Physical Education	17.12	16.93	124.5	-0.056	.955
Athletics	20.12	15.21	88.5	-1.404	.160
Employment	17.58	16.67	119.0	-0.262	.793
Minimal Compliance	15.83	17.67	112.0	-.526	.599
Total Score (All Dimension)	17.00	17.00	126.0	0.000	1.000

Table 5-2 shows that no significant differences in Title IX compliance existed between the experimental and control groups at the outset of the study. The mean ranks for the two groups are practically identical in nearly all dimensions. Indeed, the one area in which there is any discernible (though non-significant) difference is in the "athletics" dimension--- and here the control group had a higher score! The results in Table 5-2 buttress our contention that modified random sampling procedure got us a sample of districts relatively free from pernicious selection effects.

Having established that the experimental and control groups started out at about the same level of Title IX compliance, we now ask whether, after 13 months of "treatment" (i.e., training and technical assistance services), the experimental group became noticeably different from the control group. Again, we begin by examining the means and standard deviations of post-treatment scores for the two groups.

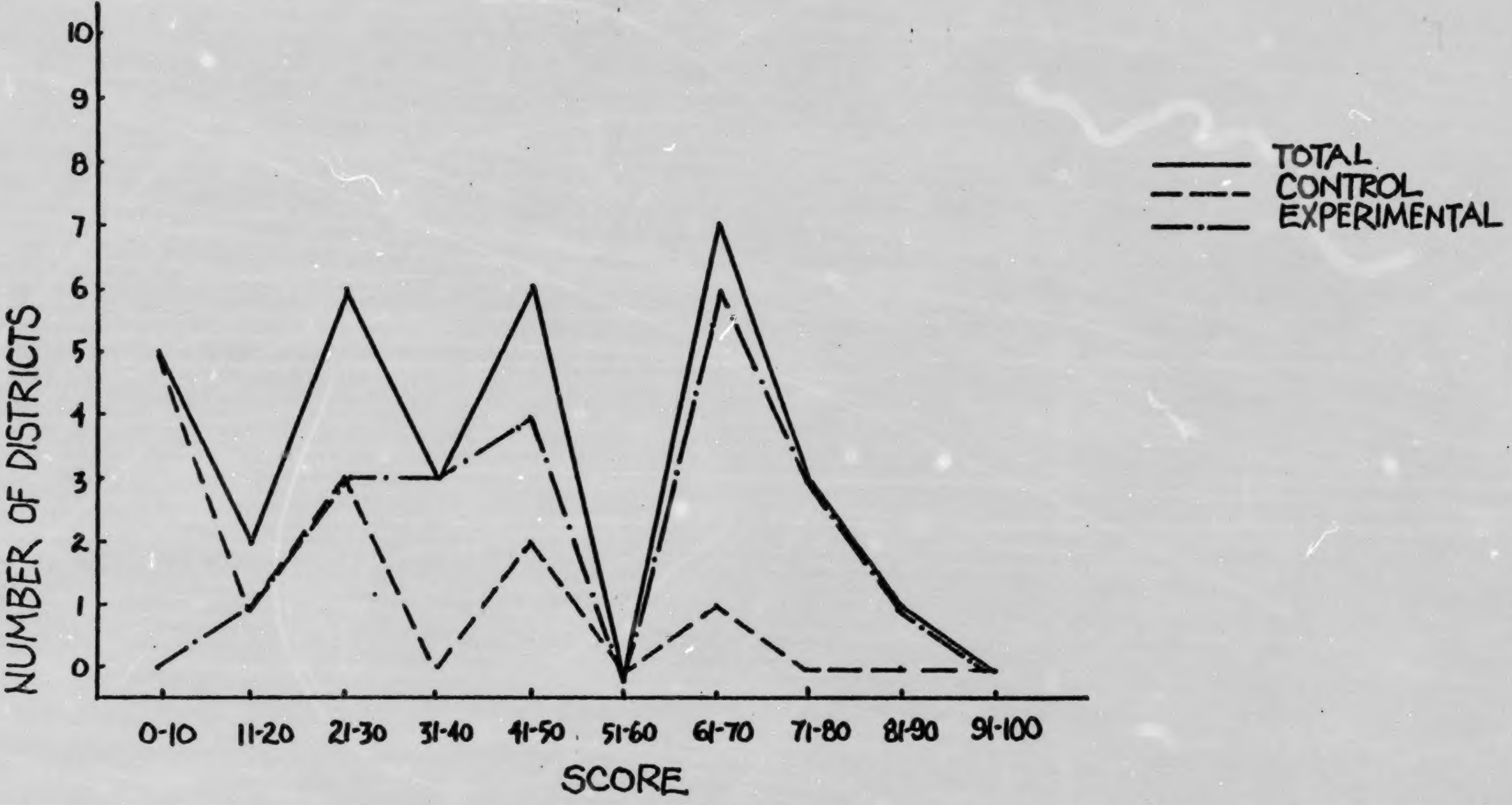
Table 5-3

Post-Treatment Compliance Scores

Title IX Dimension	Control (N=12)		Experimental (N=21)	
	$\bar{X}$	SD	$\bar{X}$	SD
Access to Courses	20.7	18.9	51.5	20.5
Non-Academic Activities	38.9	16.5	51.0	20.8
Physical Education	39.1	23.5	58.2	18.9
Athletics	38.4	16.8	46.9	23.6
Employment	37.5	21.7	57.3	26.1
Minimal Compliance	46.7	17.4	62.4	20.2
Total Score (All Dimensions)	221.3	80.6	327.4	76.3

Here we begin to see appreciably higher compliance scores in the experimental group. Once again, however, the standard deviations are quite large. Hence, it again is prudent to examine the actual distributions of scores for each dimension. These are presented in Figures 5-8, 5-9, 5-10, 5-11, 5-12, 5-13 and 5-14.

FIGURE 5-8



ACCESS TO COURSES — POST TEST

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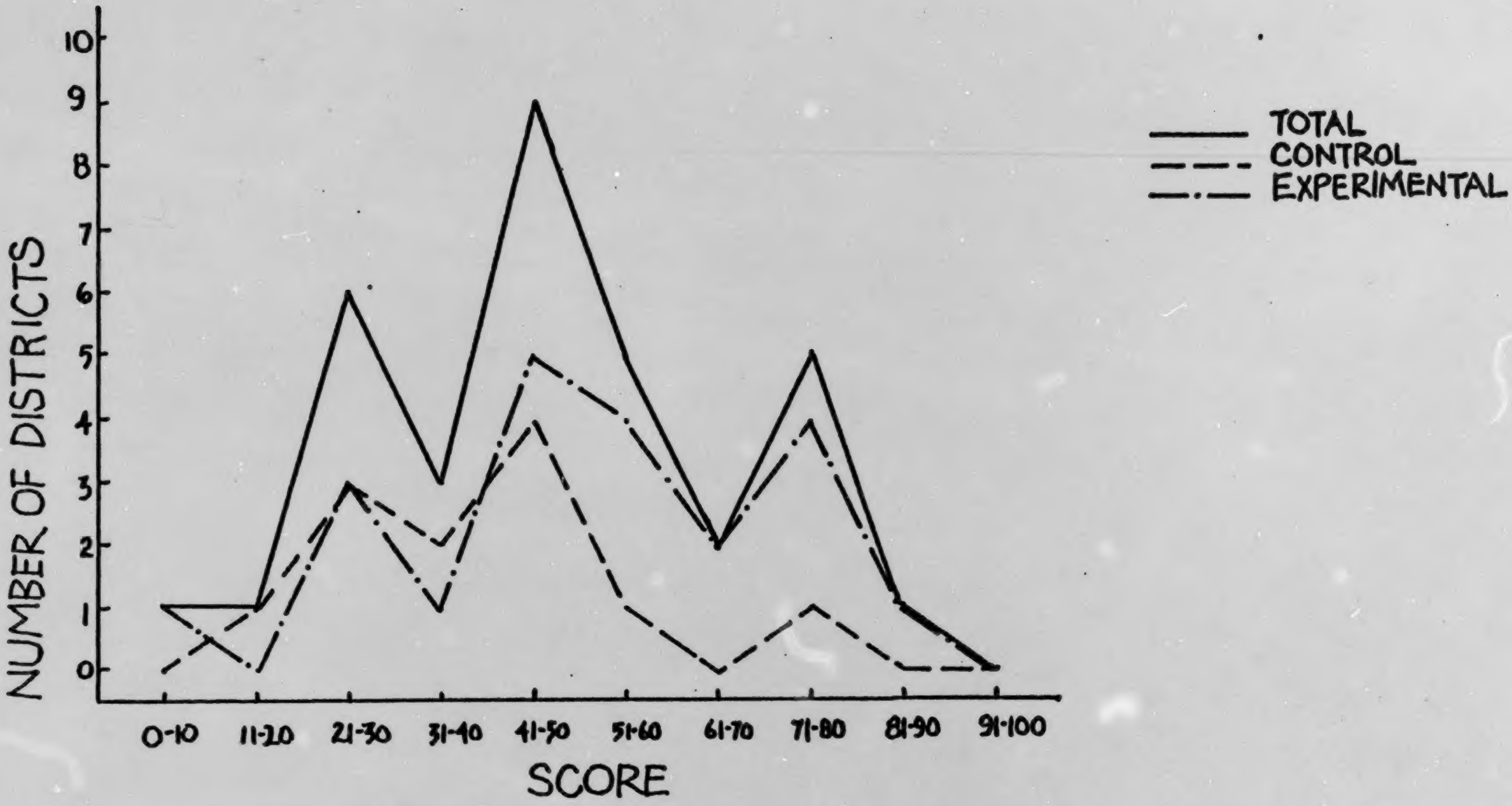
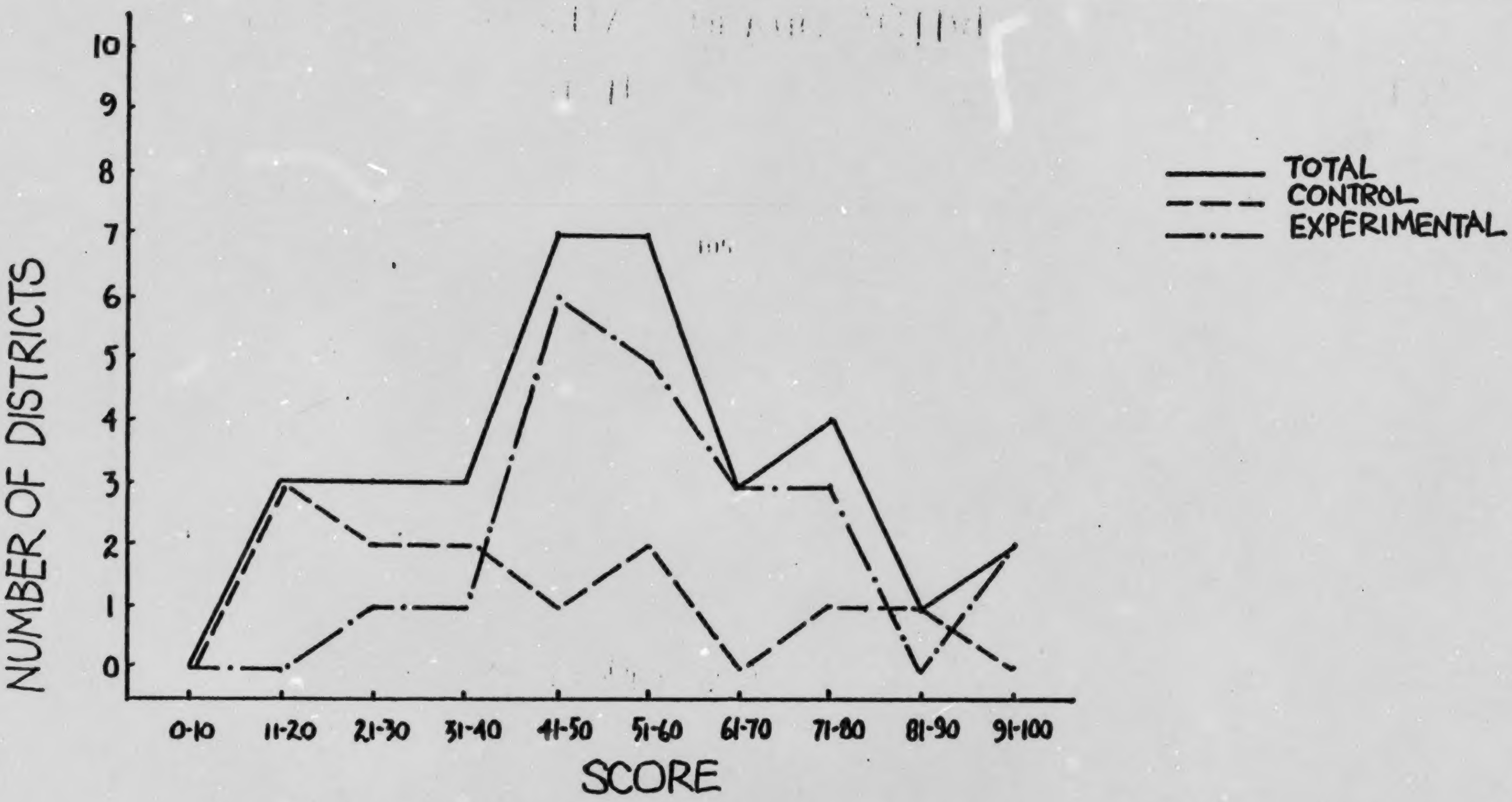
FIGURE 5-9



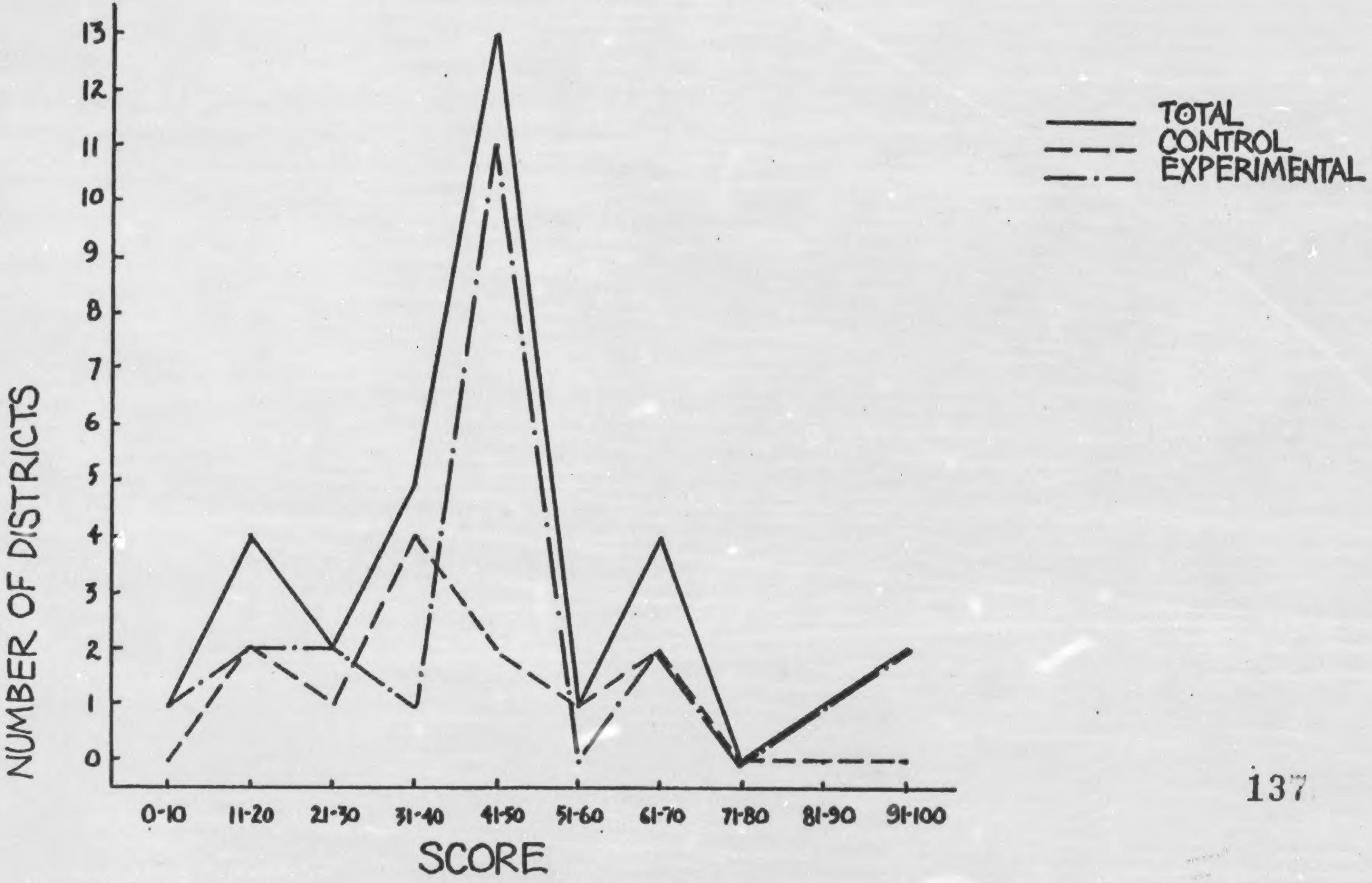
EQUITY IN NON-ACADEMIC ACTIVITIES
POST-TEST

FIGURE 5-10



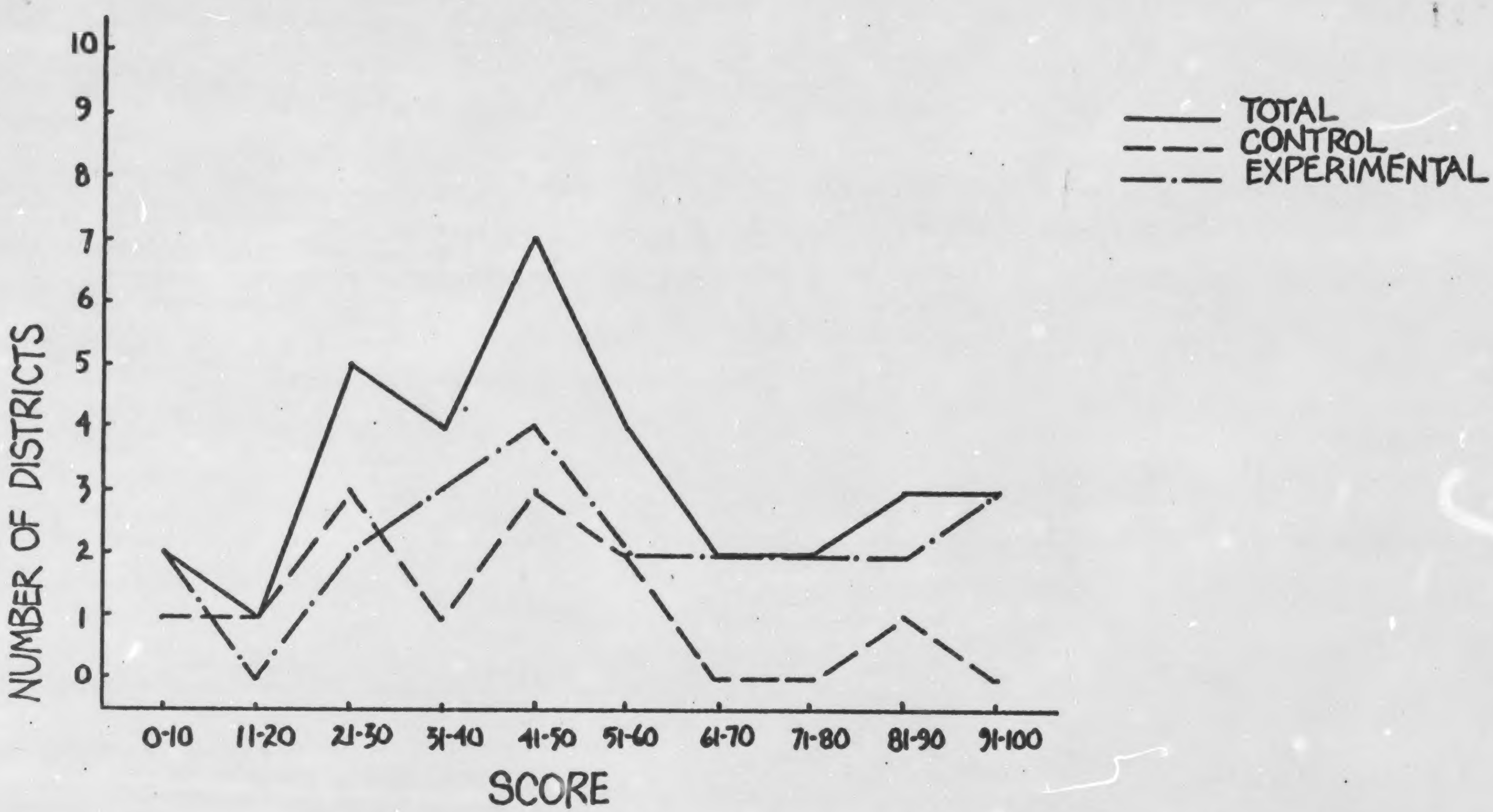
EQUITY IN PHYSICAL EDUCATION—POST TEST

FIGURE 5-11



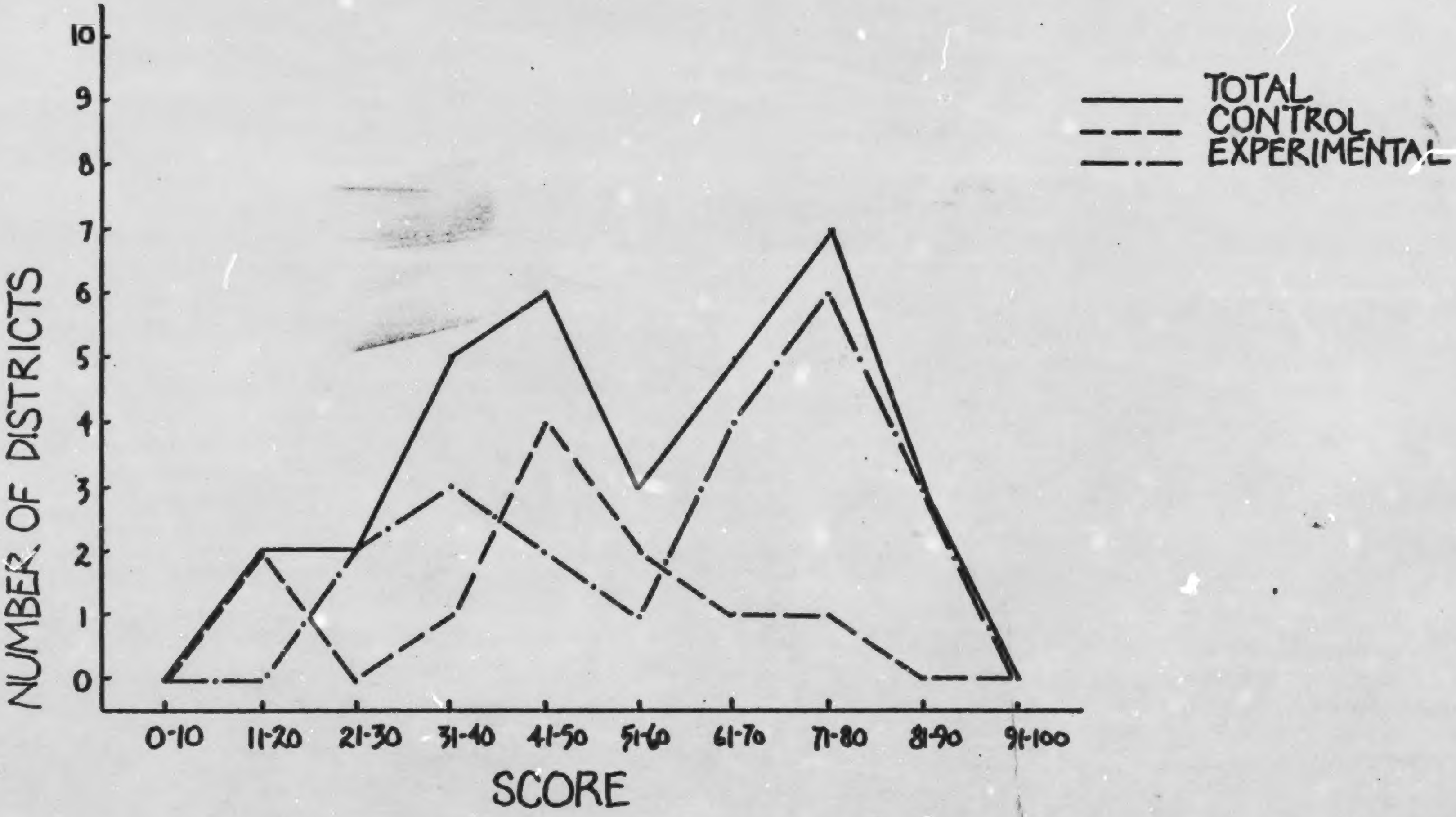
EQUITY IN ATHLETICS—POST TEST

FIGURE 5-12



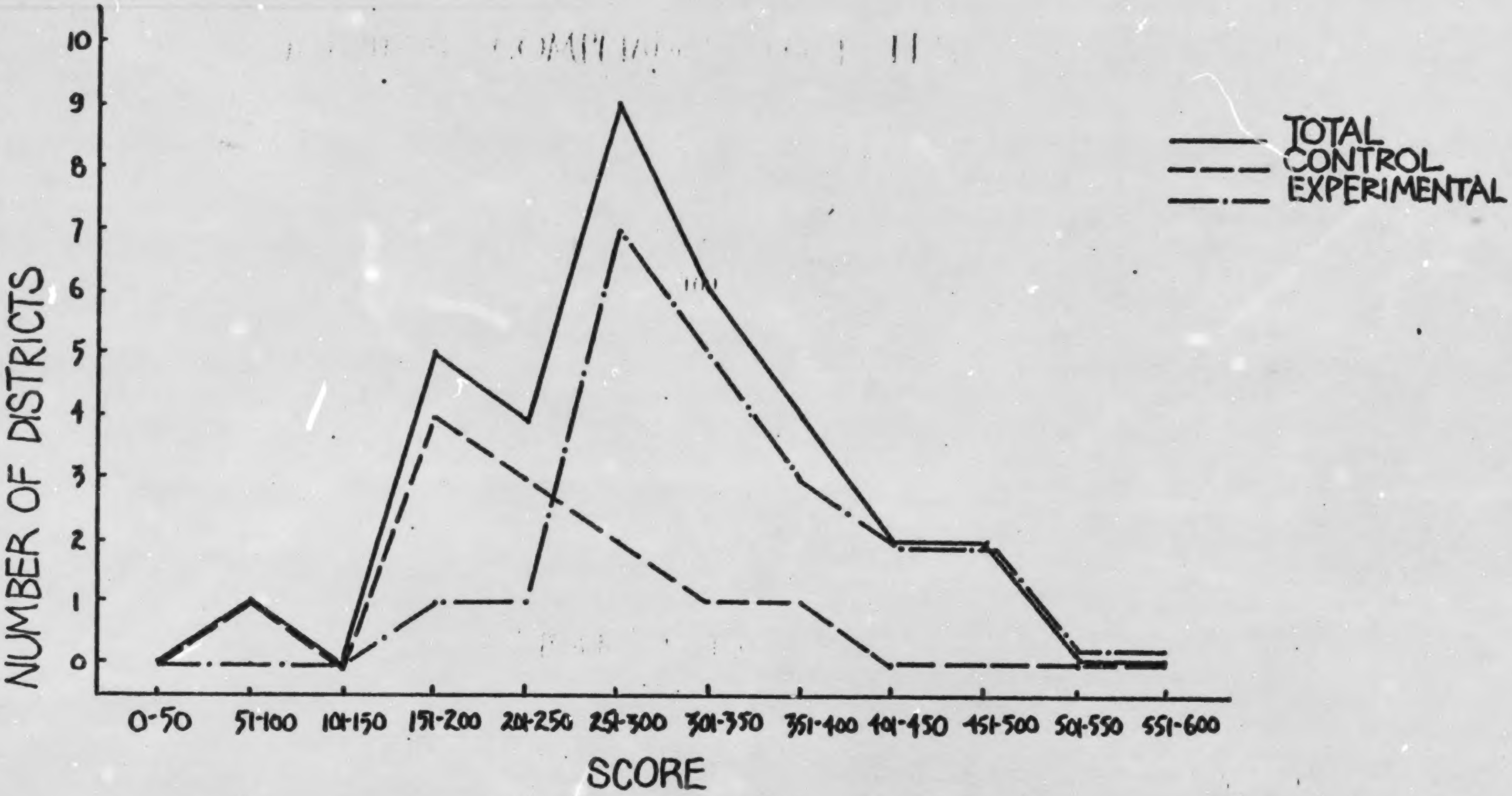
EQUITY IN EMPLOYMENT-POST TEST

FIGURE 5-13



MINIMAL COMPLIANCE—POST TEST

FIGURE 5-14



TOTAL TITLE IX IMPLEMENTATION ASSESSMENT SCORE—POST TEST

Again, the reassuring bell-shaped curve is nowhere in sight. The graphs show us many pretty and exotic shapes--- suggesting distributions that are bimodal, trimodal, leptokurtic, platykurtic, and downright erratic--- but none that justify the assumptions of normalicy. Hence, we again turn to the non-parametric U-Test to compare the compliance status of the two groups under study.

Table 5-4 displays the results of the Mann-Whitney U-Test for the post-treatment differences in Title IX compliance between the experimental and control groups.

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Table 5-4

Mann-Whitney U-Test for Differences Between
Experimental and Control Groups, Post-Treatment

Title IX Dimension	Mean Rank Control (N=12)	Mean Rank Experimental (N=21)	U	Z	2-Tailed P-Value
Access to Courses	9.50	21.29	36.0	-3.369	.001*
Non-Academic Activites	12.83	19.38	76.0	-1.872	.061
Physical Education	11.79	19.98	63.5	-2.340	.019*
Athletics	14.50	18.43	96.0	-1.123	.261
Employment	12.33	19.67	70.0	-2.096	.036*
Minimal Compliance	12.21	19.74	68.5	-2.160	.031*
Total Score (All Dimensions)	9.83	21.10	40.0	-3.218	.001*

Here we find that the experimental group has improved its score rankings to such an extent that statistically significant differences now exist between the experimental and control groups in the areas of "access to courses", "physical education", "employment", "minimal compliance", and overall "total score" on Title IX compliance. The ranking difference between groups in the area of "non-academic activities" nearly attains the criterion level (.05) of statistical significance, but falls slightly short. Alas, the test shows no significant difference between experimental and control groups in compliance with Title IX's requirements in "athletics".

This view, however, is somewhat static since it only compares the groups at a given point in time. If we examine the gain scores (i.e., the difference between the pre-treatment and post-treatment scores for each district), we get a sharper picture of the level of change that took place during the study. In a sense, this is a more conservative (but more fair) way of viewing the data since it adjusts each district's post-treatment score in light of whatever initial (pre-treatment) advantage or disadvantage it had. (Recall that the experimental group started out with a small, non-significant advantage in the areas of "access to courses", "non-academic activites", and "minimal compliance", while the control group had a non-significant early advantage in the areas of "physical education", "athletics", and "employment".)

Mean gain scores and their whopping standard deviations are arrayed in Table 5-5.

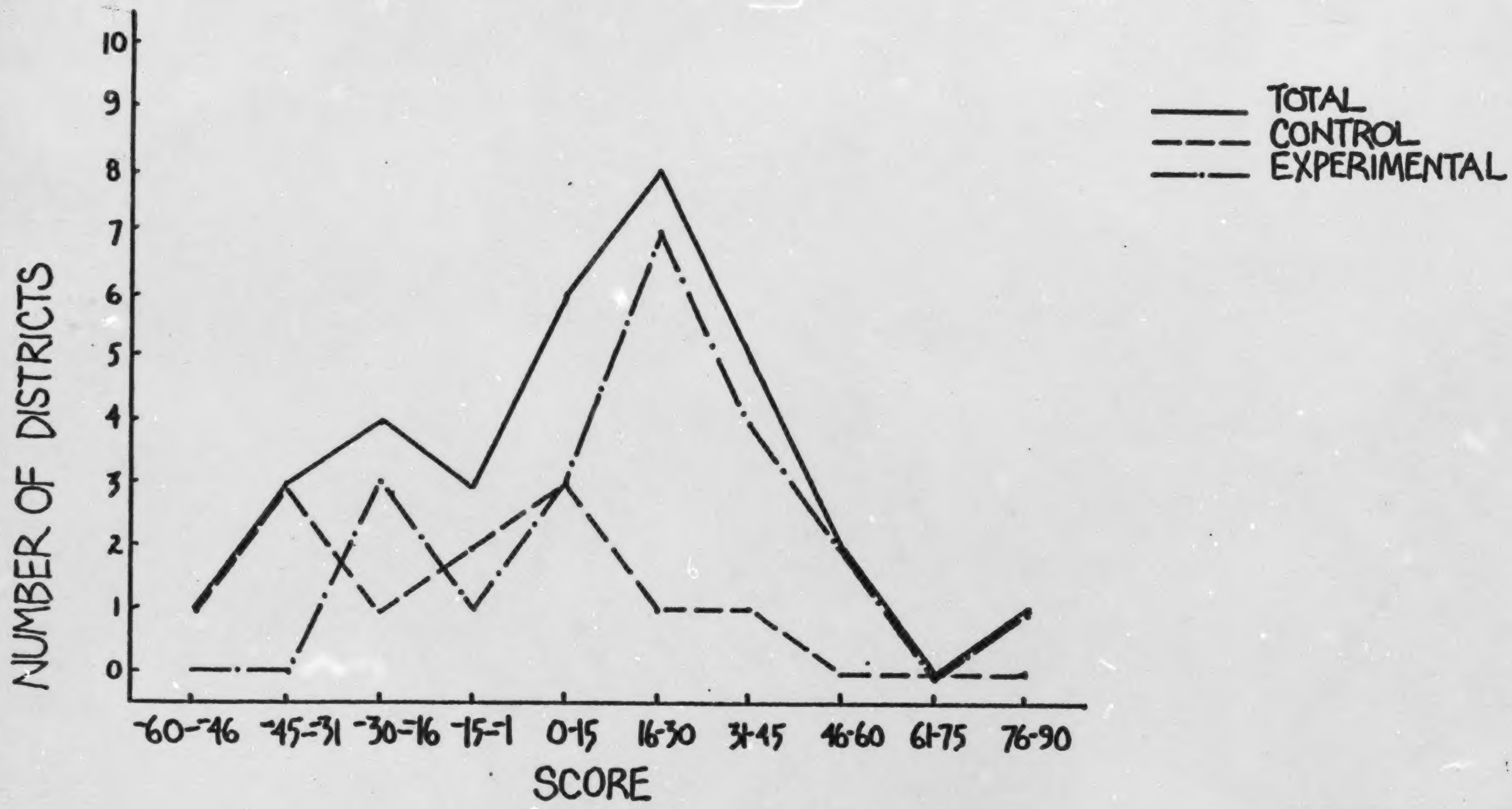
Table 5-5

Summary Gain Scores

Title IX Dimension	Control (N=12)		Experimental (N=21)	
	$\overline{X}$	SD	$\overline{X}$	SD
Access to Courses	-8.7	27.4	23.0	27.1
Non-Academic Activities	8.1	27.9	19.0	30.4
Physical Education	-1.9	20.3	17.9	26.8
Athletics	1.0	27.1	21.5	25.4
Employment	0.7	21.3	23.3	27.8
Minimal Compliance	0.4	12.3	9.3	16.2
Total Score (All Dimensions)	-0.4	105.2	114.1	99.9

Although this table suggests that the control group might actually have slipped slightly in its absolute scores in the "access to courses" and "physical education" dimensions, we cannot make too much of this because the means are thoroughly swamped by the standard deviations. Again, we follow the more parsimonious path of examining the gain score distributions themselves in Figures 5-15, 5-16, 5-17, 5-18, 1-19, 5-20, and 5-21.

FIGURE 5-15



ACCESS TO COURSES—GAIN SCORE

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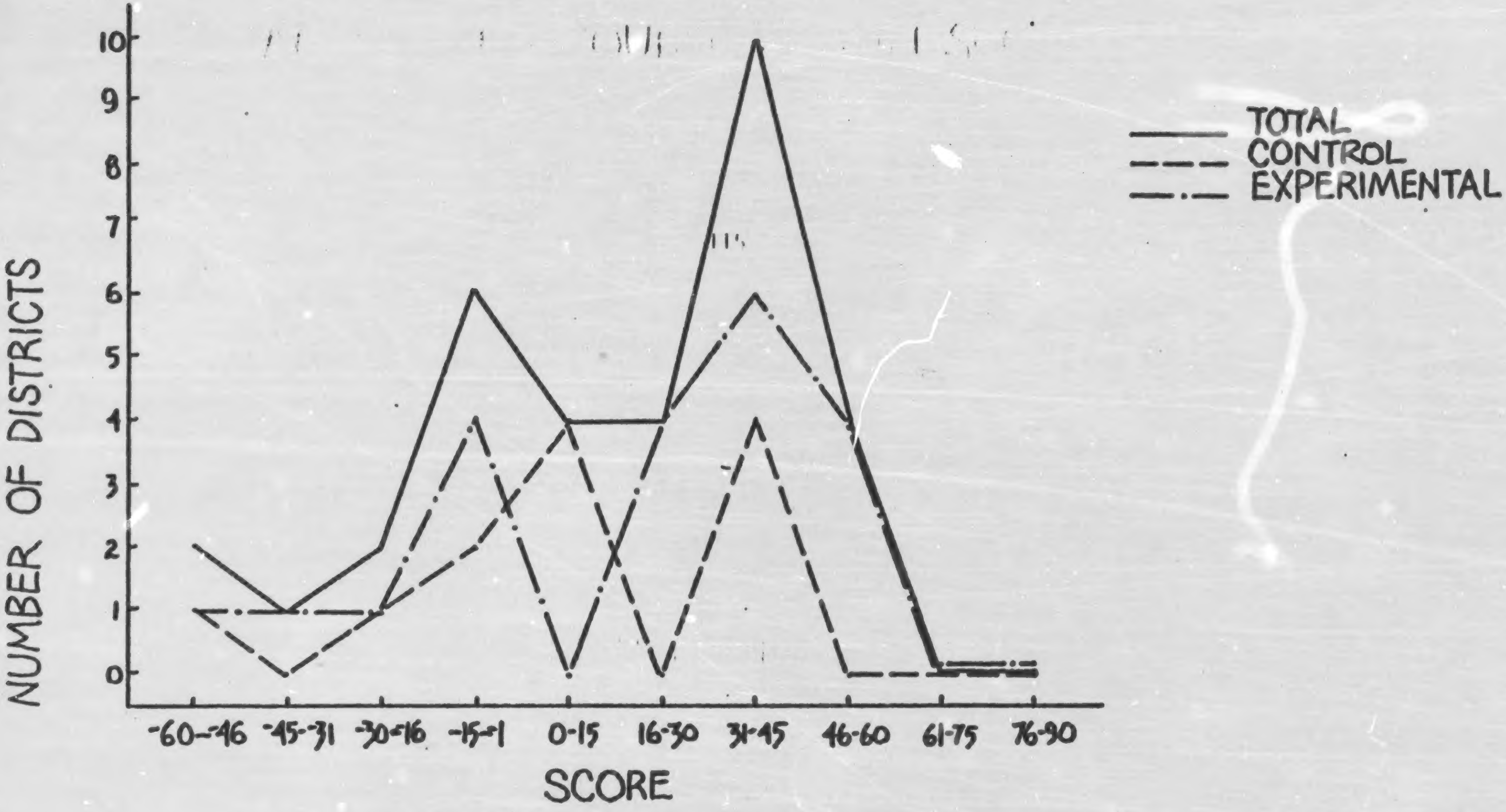
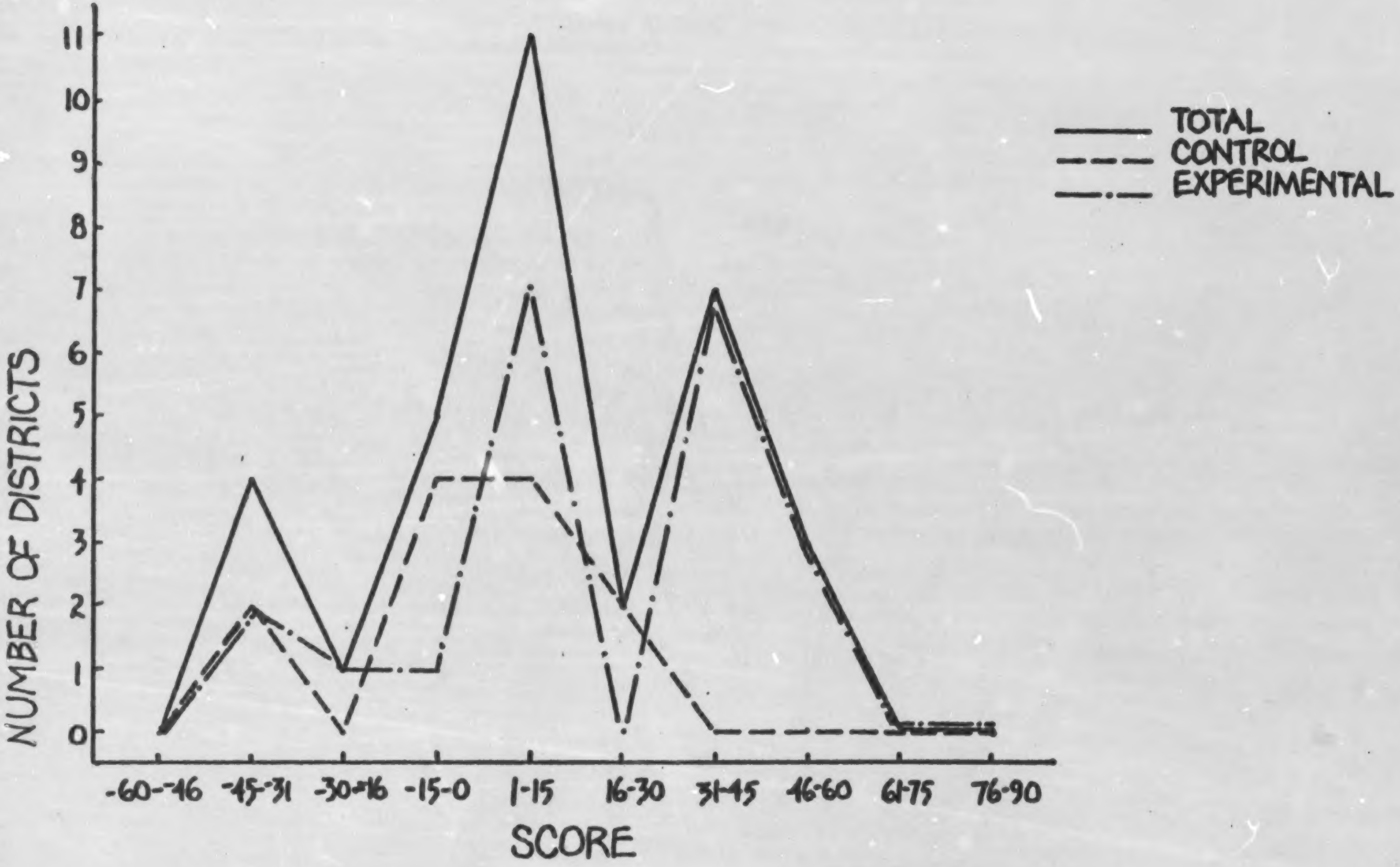
FIGURE 5-16



EQUITY IN NON-ACADEMIC ACTIVITIES—
GAIN SCORE

FIGURE 5-17



EQUITY IN PHYSICAL EDUCATION-GAIN SCORE

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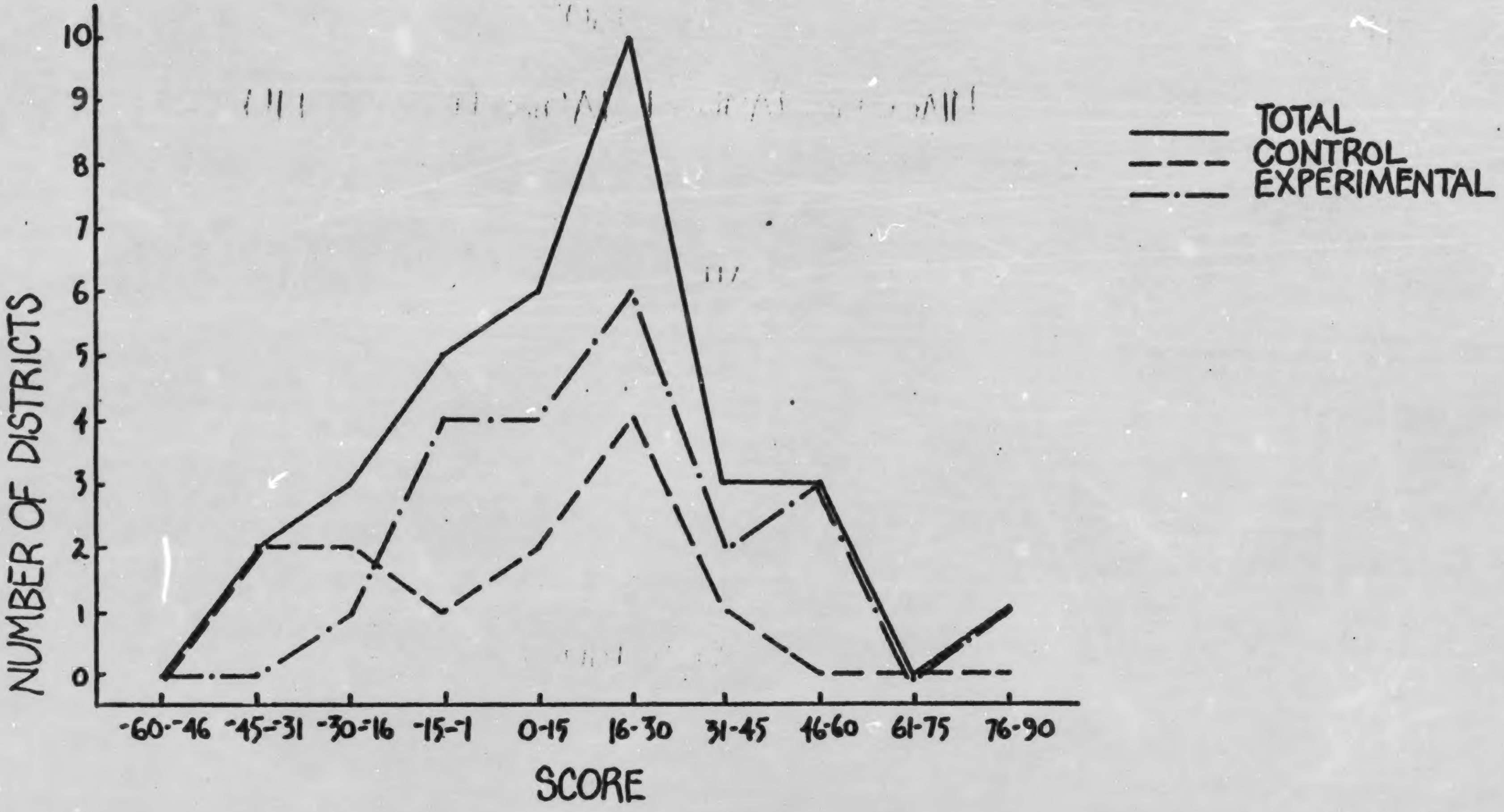
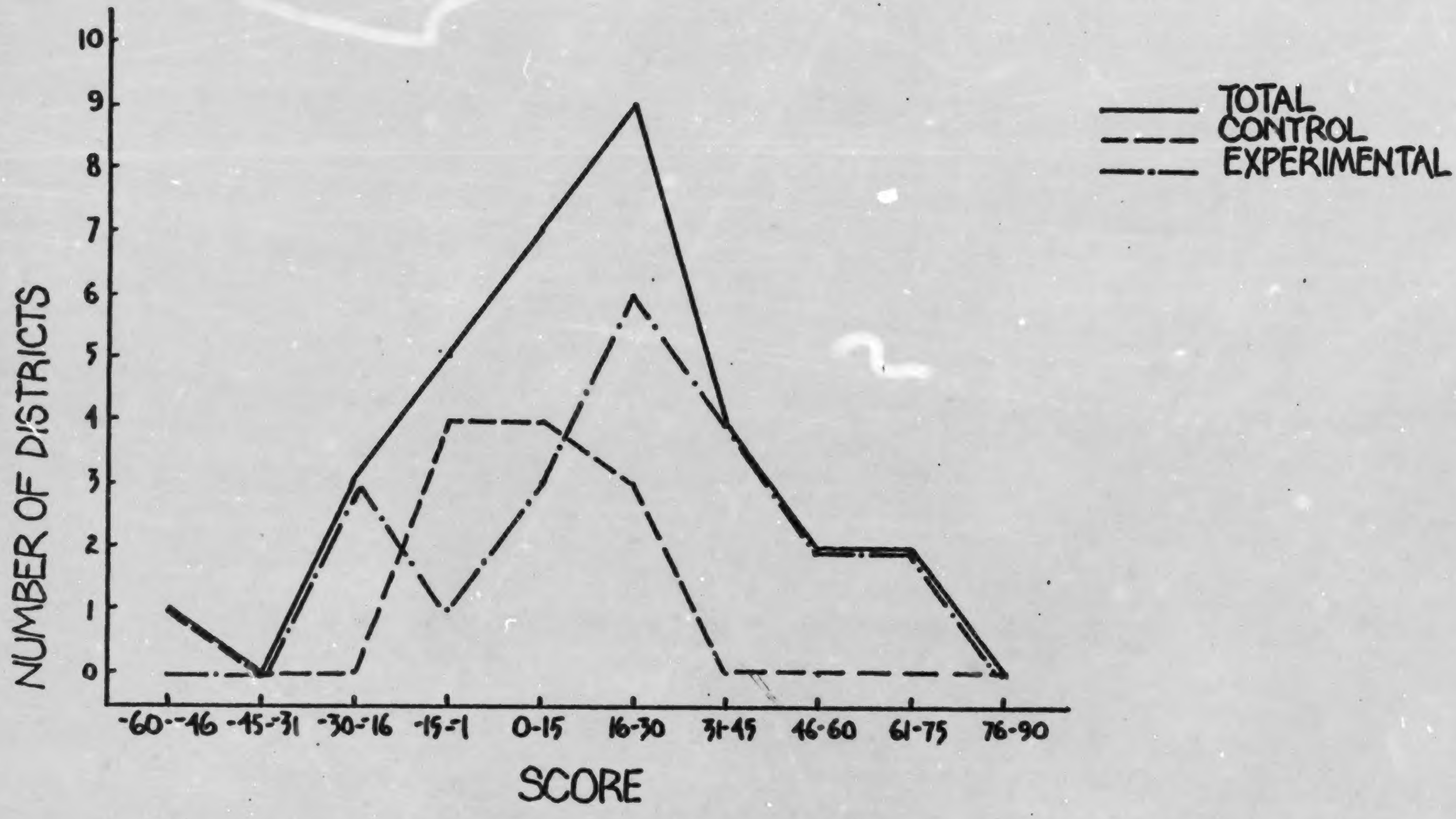
FIGURE 5-18



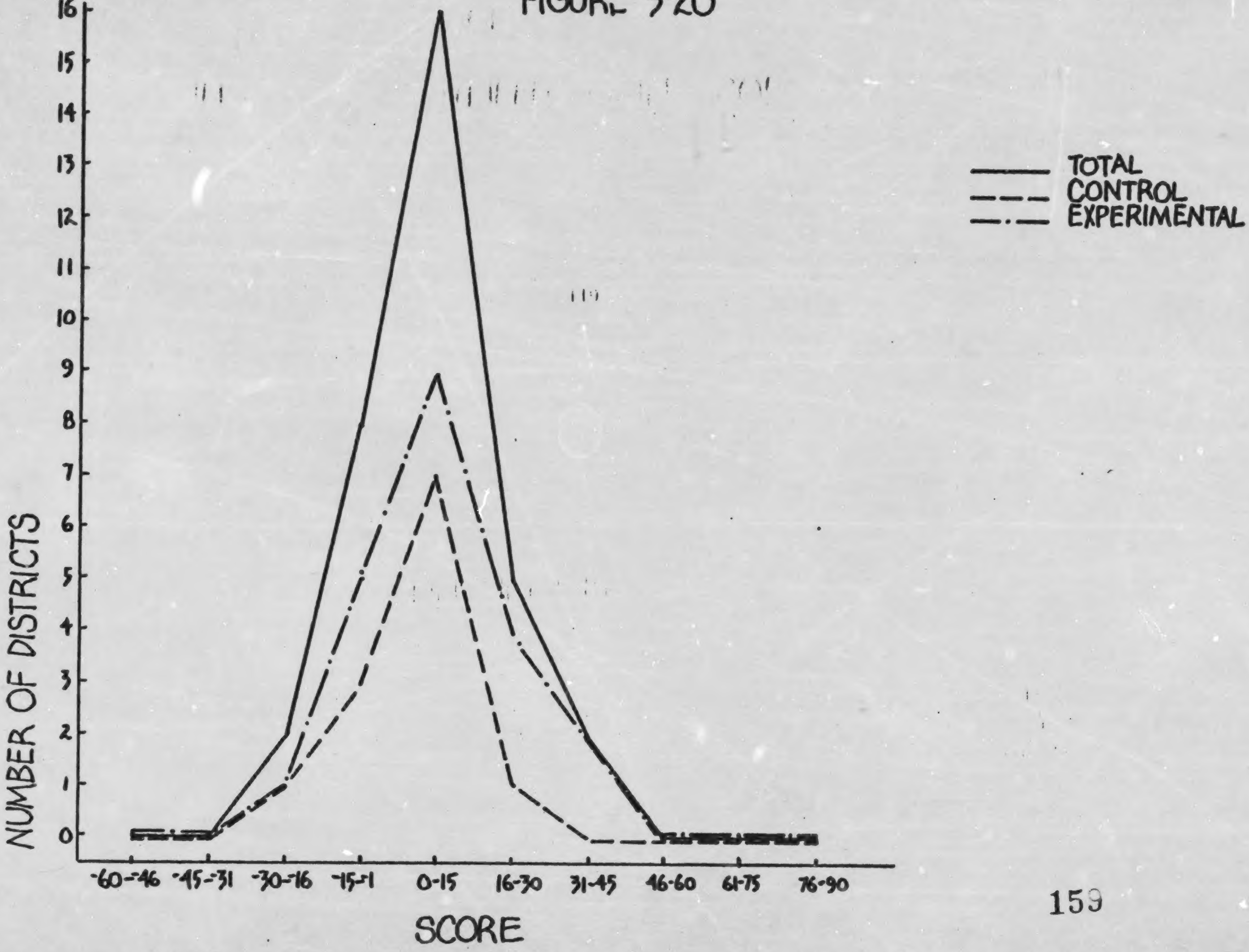
EQUITY IN ATHLETICS-GAIN SCORE

FIGURE 5-19



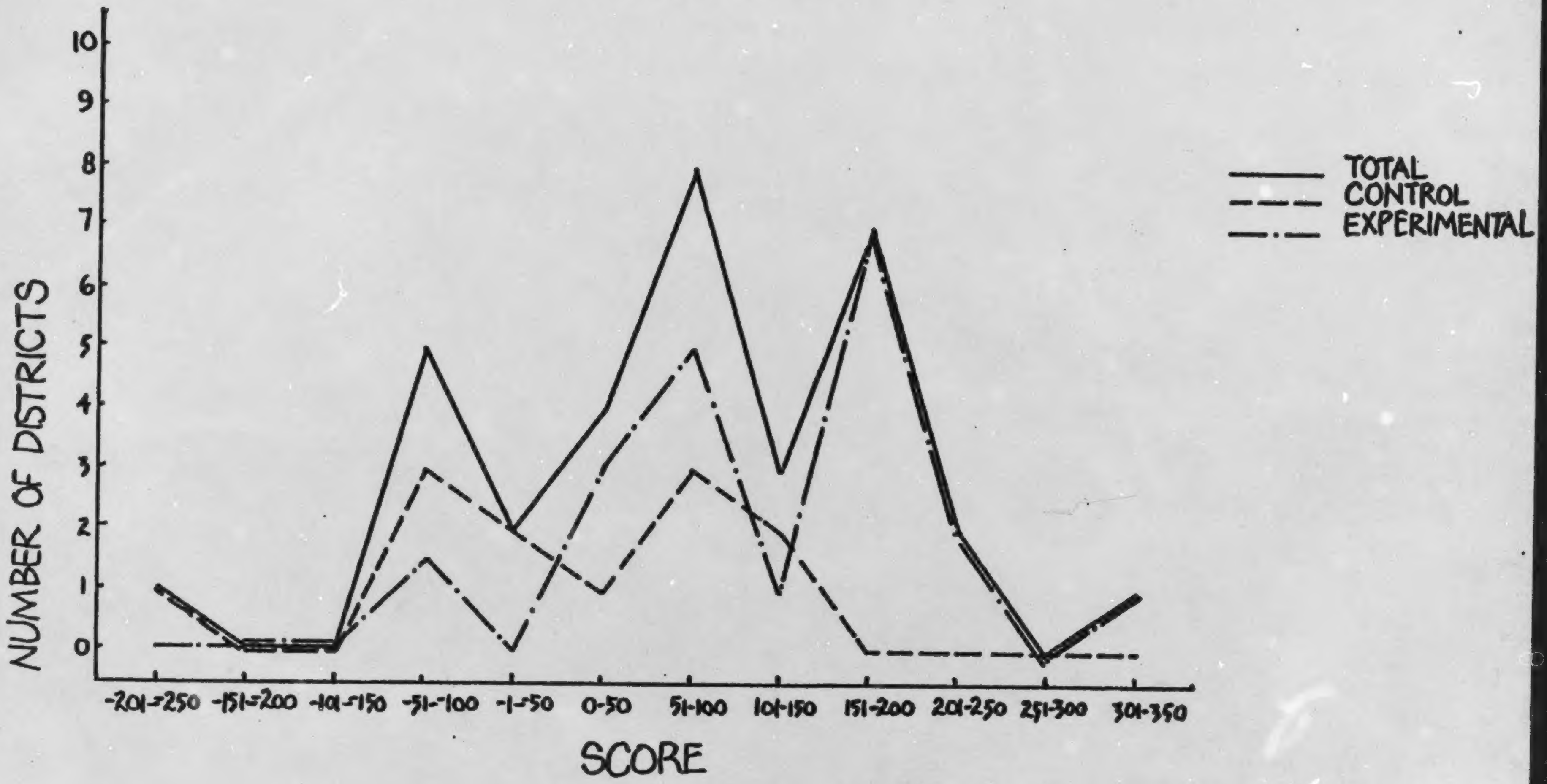
EQUITY IN EMPLOYMENT-GAIN SCORE

FIGURE 5-20



MINIMAL COMPLIANCE — GAIN SCORE

FIGURE 5-21



TOTAL TITLE IX IMPLEMENTATION SCORE-GAIN SCORE

Again, it is no surprise that these figures reveal decidedly non-normal distributions. The shapes of the distributions for the two groups sometimes diverge (as they do in the "physical education" dimension) and sometimes they are virtually identical (as, for example, in the "minimal compliance" dimension). To fathom the significance of the differences, however, we again turn to the Mann-Whitney U-Test, presented in Table 5-6.

Table 5-6

Mann-Whitney U-Test for Differences in Gain Scores
Between Experimental and Control Groups

Title IX Dimension	Mean Rank Control (N=12)	Mean Rank Experimental (N=21)	U	Z	2-Taile P-Value
Access to Courses	10.75	20.57	51.0	-2.807	.005*
Non-Academic Courses	14.50	18.43	96.0	-1.123	.262
Physical Education	11.79	19.98	63.5	-2.339	.019*
Athletics	12.79	19.40	75.5	-1.890	.059
Employment	11.92	19.90	65.0	-2.283	.022*
Minimal Compliance	13.79	18.83	87.5	-1.451	.147
Total Score (All Dimensions)	10.83	20.52	52.0	-2.769	.006*

When we compare the gains made over the course of the study by the two groups, we get a somewhat different picture from that painted by Table 5-4. Again, we find sharp evidence of experimental group progress in the areas of "access to courses", "physical education", "employment", and "total (overall) compliance". However, the nearly-significant difference between groups in the "non-academic activities" that we noted in discussing Table 5-4 now appears to be nothing more than an artifact of the experimental group's initial advantage in this area; indeed, Table 5-6 suggests that there was no appreciable progress in this area among the experimental group districts.

Conversely, Table 5-4 gave us the disappointing news that, at the time of the post-treatment cycle of data collection, there was no significant difference between the score rankings of the control and experimental groups in the area of "athletics". Table 5-6, on the other hand, suggests that perhaps the experimental group districts did not do so badly on this dimension after all. Although the gain score difference between the two groups falls just short of the criterion for statistical significance, it shows that the experimental group districts did in fact make progress in this area--- but they had to overcome their initial (pre-treatment) score disadvantage.

By examining the differences in gain scores, we get the best single answer to our initial question: Did the "treatments" (i.e., training and technical assistance) make any difference in the Title IX compliance status of the districts in the study? The answer, as measured by our instrument and controlled by our sampling procedure, is: Yes, the treatment led to significant gains in compliance in the areas of "access to courses", "physical education", and "employment", as well as in the overall sum of all dimensions (i.e., the "total score"). However, there were no significant experimental group changes in the areas of "non-academic activities" and "minimal compliance", while the measured changes in compliance in "athletics" fell just short of our criterion of statistical significance.

Why was no change apparent in these latter three areas? The answers may be different for the different dimensions.

In the area of "minimal compliance", the absence of more dramatic change may simply be because of the limited number of things that districts can do to be "minimally" compliant. As of the pre-treatment cycle of data collection, most districts had already adopted formal policies of compliance, completed rudimentary self-evaluations, filed their required assurances, established and disseminated grievance procedures, publicized their Title IX compliance, and extended their affirmative action plans to cover women. Measured "growth" stemmed from the formal adoption of complaint policy statements by a few school boards. The experimental group started out a bit ahead of the control group in this dimension; they widened their lead during the time of their study. This dimension, however, covers the most pro-forma part of the Title IX regulations. As such, it covers the steps we would most expect control group districts to be able to manage without outside help. Hence when we compare the distance traveled by the two groups (i.e., the net change of the two groups), we find no significant difference.

Why, however, was there no greater difference between the gain scores of the experimental and control groups in the areas of "access to non-academic activities" and "athletics"? One partial answer might be found way back in Table 3-3, our table of marginal frequencies presented in the methods chapter. That table presents figures showing how many experimental districts emphasized different content areas in their use of project consultants. Here we learn that fully 81% of the districts did not use any consultants in the area of "access to non-academic activities", while 71% used no consultant resources in the area of "athletics". Those districts that did use consultant resources in these areas used only a modest amount (one-half to one full day each). Hence, it would appear that the areas of growth corresponded to the areas of programmatic emphasis. This explanation, however, is flawed by a glaring anomaly: the "employment" dimension received exactly the same proportional emphasis as the "non-academic activities" dimension, yet the experimental group registered significant gains in employment practices.

Perhaps we might retrieve some clue to the dynamics of the score gains by seeing on exactly which instrument items the experimental and control group gain scores differed most dramatically. These data appear in Table 5-7.

Table 5-7

Mann-Whitney U-Test for Gain Scores Differences Between Experimental and Control Groups for Individual Items on the CCSEE Assessment Instrument

		Mean Rank		U	Z	2-tailed p-value
		Control (N=12)	Exper. (N=21)			
1.	Access to voc. - tech. - indus. courses	15.08	18.10	103.0	-0.865	0.387
2.	Access to home economics courses	12.25	19.71	69.0	-2.140	0.032*
3.	Access to adv. placement courses	13.08	19.24	79.0	-1.760	0.078
4.	Access to business courses	12.04	19.83	66.5	-2.243	0.025*
5.	Access to special education	11.71	20.02	62.5	-2.411	0.016*
6.	Access to adult education	14.71	18.31	98.5	-1.072	0.284
7.	Criteria for evaluating instruc. material	14.92	18.19	101.0	-0.950	0.342
8.	Access to extracurricular clubs	17.25	16.86	123.0	-0.113	0.910
9.	Access to student activities and program	18.75	16.00	105.0	-0.789	0.430
10.	Access to honors and scholarships	17.08	16.95	125.0	-0.037	0.970
11.	Access to counseling programs	15.75	17.71	111.0	-0.567	0.570
12.	Access to career guidance/job placement	15.21	18.02	104.5	-0.810	0.418
13.	Equity in testing materials	17.83	16.52	116.0	-0.380	0.704
14.	Treatment of married and pregnant students	15.75	17.71	111.0	-0.572	0.567
15.	Equity in rules, standards, punishments	12.29	19.69	69.5	-2.120	0.034*
16.	Equity in insurance and health benefits	16.83	17.10	124.0	-0.075	0.940
17.	P.E. course descriptions and materials	12.12	19.79	67.5	-2.246	0.025*
18.	P.E. requirements	13.92	18.76	89.0	-1.396	0.163
19.	Implemented co-ed P.E. program?	15.12	18.07	103.5	-0.852	0.394
20.	Equity in P.E. instruction	13.54	18.98	84.5	-1.560	0.119
21.	Equity in P.E. facilities	16.04	17.55	114.5	-0.433	0.655
22.	Equity in P.E. activity options	17.00	17.000	126.0	-0.000	1.000
23.	Equity in P.E. staff treatment	12.96	19.31	77.5	-1.826	0.068
24.	Staff involvement in Title IX implementation	12.75	19.43	75.0	-1.913	0.056
25.	Have plan for compliance in athletics?	14.25	18.57	93.0	-1.253	0.210
26.	Level of staff involvement in implementation	10.79	20.55	51.5	-2.803	0.005*
27.	Equipment, supplies, practice schedules	13.71	18.88	86.5	-1.480	0.139
28.	Publicity and school support	14.37	18.50	94.5	-1.182	0.237
29.	Equity in athletic awards, scholarships	15.75	17.71	111.0	-0.562	0.574
30.	Equity in athletic budgets	14.50	18.43	96.0	-1.126	0.260
31.	Equity in athletic recruitment	18.79	15.98	104.5	-0.817	0.414
32.	Equity in treatment of athletic staff	11.96	19.88	65.5	-2.283	0.022*
33.	Equity in written employment policies	14.67	18.33	98.0	-1.054	0.292
34.	Equity in recruitment procedures	12.25	19.71	69.0	-2.145	0.032*
35.	Equity in employment interview	13.33	19.10	82.0	-1.673	0.094
36.	Equity in gender distribution of employees	14.79	18.26	99.5	-1.003	0.316
37.	Equity in staff insurance, health and fringes	17.75	16.57	117.0	-0.342	0.732
38.	Equity in staff development program	15.58	17.81	109.0	-0.641	0.522
39.	Equity in pay scales and compensation	13.58	18.95	85.0	-1.540	0.124
40.	Equity in assignment of staff	10.92	20.48	53.0	-2.758	0.006*
41.	Have board policy?	13.21	19.17	80.5	-1.907	0.057
42.	Have affirmative action plan for women?	14.37	18.50	94.5	-1.237	0.216
43.	Complete self-evaluation?	14.67	18.33	98.0	-1.090	0.276
44.	Grievance procedure?	15.96	17.60	113.5	-0.506	0.613
45.	Disseminate policy and grievance procedure?	15.50	17.86	108.0	-0.704	0.481

Table 5-7 shows that experimental group districts made significant gains in three "access to courses" areas: home economics, business, and special education. They also made gains in access to advanced placement/ fine arts courses that nearly met our criterion for statistical significance. These gains all took place in the area of very specific elective course areas. Recalling that the CCSEE Title IX Implementation Assessment Instrument measures the level of district effort to comply with Title IX, one must wonder whether the specificity of the compliance criteria in this dimension makes it easier for districts to meet their legal requirements.

The area of "non-academic activities", on the other hand, is a dimension filled with intangibles. (e.g., Are counseling programs fair?) It is a dimension that logically requires districts, to collect data that they normally do not collect (e.g., What is the gender distribution of club participants? What are the gender patterns of counselor workloads?). It is a dimension that includes areas in which districts feeling a lack of technical competence defer to outside (especially state and academic) authorities (e.g., Are there inherent biases in standarized tests used in this district?). Finally, the "non-academic activities" dimension touches on areas where districts may feel most wary of treading on local customs, mores, and traditions--- particularly areas that have to do with school spirit rituals. In short, this may be an area of Title IX that districts regard as more difficult and more risky to change. This perception may account for their relative lack of enthusiasm for consultant services in this area--- and for their relative lack of growth. Table 5-7 shows that the one "non-academic activities" area where experimental group districts gained significantly more than did control group districts was in the area of rules of behavior/standards of enforcement/meeting of punishments. This area, at least, is one in which districts have fairly unequivocal authority, in which no special expertise is required, in which standards for compliance are more tangible, and for which no new or exotic data need be collected. Growth in this one area, however, was not enough to lead to a significant change in the entire dimension.

Table 5-7 reflects a similar pattern of change in both the "physical education" and "athletics" dimensions. In "physical education", experimental group districts made their most substantial gains in the very tangible area of "course descriptions and materials". Unlike the dimensions that we have already discussed, however, the other substantial experimental group gains in physical education and athletics were in intangibles---namely, in areas that had to do with staff treatment and involvement in change processes. Oddly, we do not find significant differences between the experimental and control group gains in such tangible, hard-core policy areas as budgets, facilities, scheduling and requirements.

The paradox is obvious: in the dimensions of "access to courses" and "access to non-academic activities", the "tangibles" were the areas of greatest experimental group change; in the dimensions of "physical education" and "athletics", the "intangibles" ruled the day. Though we may speculate freely on the meaning of this paradox, its empirical explanation eludes the power of our data.

CHAPTER VI

Causal Speculations: Do Exogenous Factors Explain the Differences Between Experimental and Control Groups?

A. Limitations, Qualifications, Exhortations

As noted in the Introduction, the broad features of our research design, particularly the random selection of school districts into experimental and control groups, as well as the pretest-posttest comparison group procedure, serve to insure that measured "treatment effects" actually resulted from program treatments rather than from selection biases. Despite these precautions, one cannot avoid the queasy suspicion that the treatment effects documented in the preceding chapter might somehow be spurious--- mere manifestations of some hidden compositional difference between the experimental and control groups. With hopes of calming or exacerbating these doubts, we shall in this chapter examine a series of causal systems; our purpose in this is threefold. First, we shall see whether, indeed, there are compositional differences between the experimental and control groups. Second, we shall see whether these differences effectively account for the observed treatment effects (i.e., whether the treatment effects remain robust when the hidden or exogenous factors are "controlled"). Third, we shall explore the evidence regarding other (non-treatment) factors that influence a district's progress toward Title IX compliance. The small size of our sample limits our ability to tease answers to these more sophisticated causal questions.

Indeed, no pure statistical case can be made for any of the causal systems that we shall examine. Any attempt to examine the simultaneous effect of three variables on only 33 cases results in very small frequencies in table cells. Hence, we shall make no grandiose claims that our sample justifies statistical inference to the universe of school systems in California, much less the nation.

Our data, however, do appear to be fairly good, and our sample unbiased. Since we bothered to collect data on a veritable litany of control variables, it would be a shame to fail to explore their relationships. Though our sample size is small, our "cleaner" than average research design invests our data with a special respectability. While these design features certainly will not remove the objections that statistical purists might raise to the serious consideration of small table cells, we reject the crippling alternative of wringing our hands in despair and abandoning the more subtle causal questions. Readers ought always to bear in mind that the small sample size makes these data quite vulnerable to sampling error; hence, we cannot generalize from our sample to a larger universe. However the bits of data may form interesting composite pictures that whisper real causal relations to the attentive ear.

B. Data Analysis Procedures: D-Systems Analysis

Most of the control variables in our table are categorical variables. The few variables that logically have ordinal or interval level properties also have univariate distributions that fall naturally into categorical groupings. Nowhere is this more evident that with the dependent variable itself. Figure 5-21, a graph depiction of the distribution of overall gain scores on the CCSEE Title IX Implementation Instrument, gives us a clear picture of a trimodal distribution. While this picture does not justify any assumptions of linearity or normality about that distribution, it certainly justifies the formation of three gain-score groups for data analysis. Hence, it will come as no surprise that in these analyses, districts with overall gain scores of less than zero were coded as "Decliners", those with overall gain scores between zero and 100 were coded as "No Change", while those with gain scores above 100 were coded as "Gainers". This procedure yielded the following marginal frequencies:

Table 6-1

Marginal Frequencies for Total Gain Scores

Categories	P. Control (N=12)	P. Experimental (N=21)	P. Total (N=33)
Decliners	.500	.095	.242
No Change	.333	.381	.364
Gainers	.167	.524	.394

To examine the relationship between the many control variables defined in the Methods chapter (see Table 3-3 for marginal frequencies of these variables) and the tendencies of districts to fall into one of the above groups, we employed a variant of D-systems analysis.

D-systems analysis, developed primarily by the work of Leo Goodman and James Davis, is tailor made for analysts (like opinion pollsters and unlike economists) who usually work with categorical variables and whose stock in trade tends to be the contingency table. Without going into elaborate detail about the statistical theory underlying D-systems, a a few basic tenents can be sketched. D-systems analysis is based on the felicitous proposition that when drawing simple random samples of a reasonable size, the sampling distribution of the proportion p is normal and has a standard deviation of :

$$\sigma = \sqrt{\frac{(P)\ (1-P)}{N}}$$

Hence, according to this theorem, one can calculate confidence intervals for sample proportions. Since the variance of a difference between two proportions is equal to the sum of the variances of the two proportions, one can also calculate a confidence interval for a difference in proportions between two groups. Algebraically, for two conditional P's, P_i and P_j, $D_{ij} = P_i - P_j$ (in a universe), while $d_{ij} = p_i - p_j$ (in a sample). By extension, then

$$\sigma_{D_{ij}} \simeq \sqrt{\left[\frac{(p_i)\ (1-p_i)}{n_i} + \frac{(p_j)\ (1-p_j)}{n_j}\right]}$$

which is merely an algebraic way of saying that one can make statistical inferences with proportions.[1] Furthermore, differences in proportions allow one to construct "D-systems", linear flow graphs (analogous to path diagrams), that model causal relations among the variables under consideration. In the absence of interactions, the _d_ coefficients that adorn such causal models are multiplicative; as such they permit the analyst to discuss the relative weight of direct and indirect effects.

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[1] For fuller explanation of D-systems, see

James, A. Davis, "Statistical Inference with Proportions." Mimeo. National Opinion Research Center, 1975.

__________, "Contingency Table Analysis: Proportions and Flow Graphs." Mimeo. Harvard University, 1978.

__________, "Analyzing Contingency Tables with Linear Flow Graphs: D-Systems" in Davis Heise, ed., Sociological Methodology, 1976. San Francisco: Jossey-Bass, pp. 111-145.

Leo Goodman, with Jay Magidson, ed. Analyzing Qualitative Categorical Data. Cambridge, Mass. Abt Books, 1978.

Careful readers will now be wondering why, having disavowed intentions of making true statistical inferences from our small sample, we adopt an analysis strategy based on principles of statistical inference. Our answer is somewhat unconventional. As already noted, our small sample size prohibits any confident generalization to a wider universe. However, the above procedure for calculating confidence intervals for differences in proportions, if stretched somewhat, can perhaps amplify whatever relationships are whispered by our data. In other words, since the confidence intervals are sensitive both to the extremeness of the proportion differences and the marginal frequencies (i.e., marginal sample sizes), modified _d_-systems analysis offers hope for separating the wheat from the chaff in our data. Our small sample size, taken at face value, would lead to confidence intervals that would swamp even the most extreme differences in proportions. However if we make the very optimistic assumption that the sample is not biased and that the addition of more cases would yield, more or less, the same results, the observed differences in proportions become more interesting.

In the flow graphs that follow, we have employed the following procedure:

1. Actual proportions and _N_'s are reported in the three-way contingency tables.
2. Flow graphs have been constructed using a fictitious amplification of the data: All table cells were multiplied by a factor of ten.
3. Using this artifice, some differences in proportions became salient enough to protrude beyond their confidence intervals; only _d_'s that met this arbitrary criterion were drawn into the flow graphs.

4. Flow graphs follow the standard conventions for linear flow graph systems: positive relationships are represented by solid lines, while negative (or inverse) relationships are depicted by broken lines. Marginal proportions are given in parentheses below all variables.

5. Chi-Square tests for the significance of table interactions were computed, based upon the same artificial enlargement of table cell frequencies; significant interactions are noted by an asterisk* next to the d coefficients of the affected paths.

6. Variances were computed on the assumptions of a simple random sample, using a sigma value of 1.96.

It should be noted that the actual differences in proportions (the d coefficients found in the paths) are not affected by the arbitrary inflation of the table cells; only the confidence intervals are affected (i.e., made smaller). The confidence intervals themselves are not even reported here, since such reporting would lend these flow graphs a spurious air of accuracy. Rather, our procedure serves merely as a sorting device. It retrieves us from the gloom of small-sample paralysis. It gives us an explicit empirical procedure for identifying which effects are more salient than others. There are, no doubt, distortions in this procedure--- particularly since the empty cells that remain empty when multiplied by 10 would probably have at least a few cases in them in an actual sample of 330 school districts. Hopefully the quality of our small sample minimizes the pernicious effects of these distortions.

Statistical purists prone to apoplexy are advised to skip this chapter. Others are encouraged to continue with caution, always examining the tables on which the flow graphs are based. With a clear picture of the analysis conventions that have been followed here, readers can intelligently draw their own conclusions about what secrets these data are whispering.

C. Zero-Order Treatment Effects

Our examination of the gain score difference between the experimental and control groups in the preceding chapter relied on the nonparametric Mann-Whitney U-test. Before we shift to reasoned speculation on more complex three-variable relationships, let's see what the zero-order treatment effects look like. This will also warm us up on reading and interpreting linear flow graphs. First, we consider the proportions in the contingency table.

Table 6-C-1

Zero-Order Experimental Treatment Effects

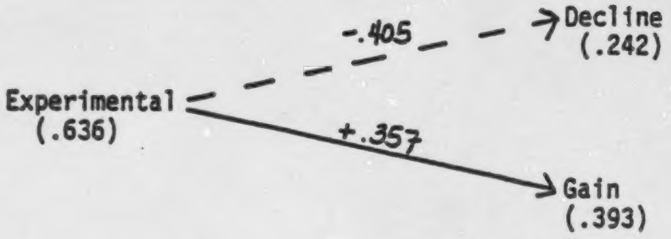
Treatment	Score			N
	Decline	No Change	Gain	
Control	.500	.333	.167	12
Experimental	.095	.381	.524	21
				33 = NN

From this table, we obtain the following flow graph. Notice that all categories of variables in flow graphs must be compared to some base category of that variable; the base, chosen arbitrarily, is usually the middle category of that variable.

Figure 6-C-1

Zero-Order Experimental Treatment Effects

Variable:	Treatment	Score
Base:	Control	No Change



This flow graph tells us that, compared to the control groups, the experimental group districts were about 40% less common in the decliner group, just as they were about 36% more common in the gainer group. From the marginal terms, we also can deduce what we already know from other data already presented--- that the control group represented 36.4% of the total sample and that 36.5% of the total sample of districts made no substantial progress toward Title IX compliance during the period of the experiment.

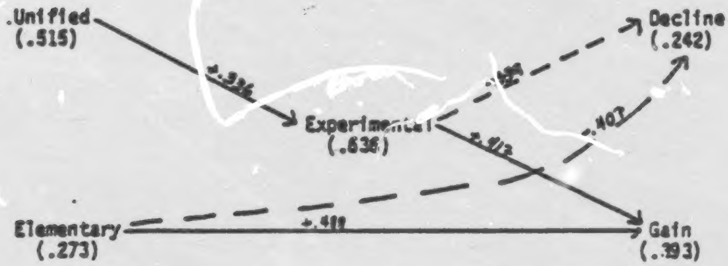
While this is all very straightforward and simple, readers should note that these zero-order differences will not remain the same when other variables are added to the equation (i.e., to that picture). If, for example, by placing a control variable prior to the treatment variable, we reduced the positive coefficient to zero, we know that the reason the experimental group appeared to gain was that it was composed of districts that had more of whatever quality was measured by that control variable (e.g., cosmopolitanism). On the other hand, if the introduction of a control variable drastically increased the size of the positive coefficient, the system would suggest that the experimental group would have made even greater progress had it not been so burdened with districts that possessed whatever other quality was being measured. In other words, the linear flow graphs permit us to discern (or in this case, at least make educated guesses about) which factors reinforced the experimental treatment and which factors suppressed it.

D. Controls for Organizational and Ecological Variables

1. District Organizational Type

Type	Trtmt.	Score			N
		Decline	No Change	Gain	
H.S. Dist.	Cntrl.	.750	.250	.000	4
	Exper.	.333	.333	.333	3
Unified	Cntrl.	.500	.500	.000	4
	Exper.	.077	.462	.462	13
Elementary	Cntrl.	.250	.250	.500	4
	Exper.	.000	.200	.800	5
					33 = NN

Variable	Org. Type	Treatment	Score
Base	H.S. Dist.	Control	No Change



Interpretation

(a) Unified Districts were proportionately more common in the experimental group than were High School Districts. Any zero-order tendency for Unified Districts to gain (or not to decline) probably stems from this compositional imbalance. That is to say, Unified Districts do not appear to be any more or less likely to gain or to decline than High School Districts.

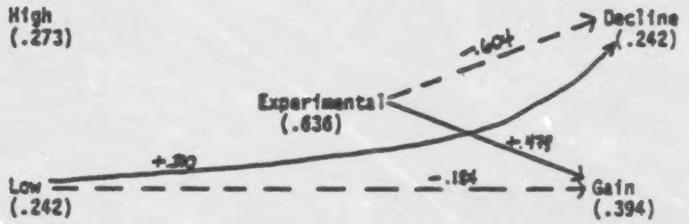
(b) Elementary Districts, on the other hand, were just as common to the experimental group as were High School Districts, but they showed a greater tendency to gain (and a tendency not to decline) net of all other factors.

(c) When controlling for organizational type, the treatment effects remained robust. That is, even when one considers the types of districts that were in the experimental and control groups, the experimental group fared better in its progress toward Title IX compliance.

2. Poverty Level in District (% AFDC)

% AFDC	Trtmt.	Score Decline	 No Change	 Gain	N
High	Cntrl.	.667	.333	.000	3
	Exper.	.333	.000	.667	6
Medium	Cntrl.	.286	.429	.286	7
	Exper.	.444	.111	.444	9
Low	Cntrl.	.000	1.000	.000	2
	Exper.	.333	.167	.500	6
					33 = NN

Variable:	% AFDC	Treatment	Score
Base:	Medium	Control	No Change


High
(.273)
Decline
(.242)
-.604
Experimental
(.636)
+.479
+.380
Low
(.242)
-.184
Gain
(.394)

Interpretation

(a) True to the intentions of our sampling design, the experimental and control groups were balanced with respect to this variable.

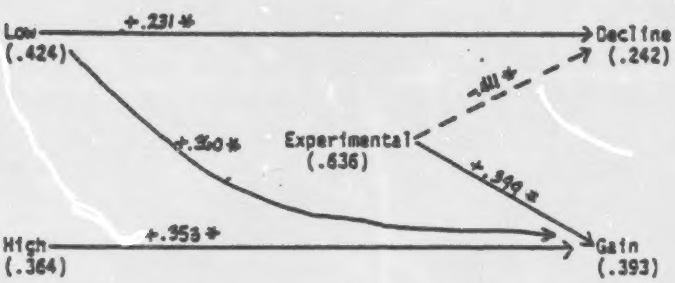
(b) Wealthier districts tended to be decliners, and were less apt to be gainers.

(c) The treatment effects are robust; in fact, they are slightly stronger when this control is introduced.

3. Percent Minority Enrollment

% Minority	Trtmt.	Score: Decline	Score: No Change	Score: Gain	N
High	Cntrl.	.667	.333	.000	3
	Exper.	.000	.444	.556	9
Medium	Cntrl.	.500	.500	.000	2
	Exper.	.000	.800	.200	5
Low	Cntrl.	.429	.286	.286	7
	Exper.	.286	.000	.714	7
					33 = NN

Variable:	% Minority	Treatment	Score
Base:	Medium	Control	No Change



Interpretation

(a) True to the intentions of the sample design, the percentage of minority students in districts was not related to selection into the experimental or control group.

(b) Districts with middling percentages of minority students were mostly "No Change" districts.

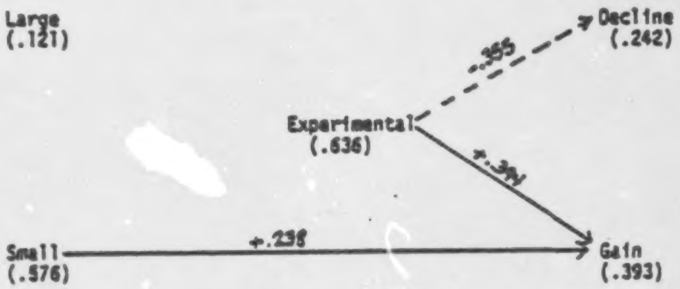
(c) Table interactions show that the effects of having minority students are not consistent. That is, both "High Minority" and "Low Minority" districts behaved differently, depending on whether they were in the experimental or control groups. The "High" and "Low" districts tended toward extremes: experimentals gained and controls lost.

(d) Treatment effects are robust and appear to be virtually unaffected by this variable.

4. District Enrollment Size (Average Daily Attendance)

ADA	Trtmt.	Score			N
		Decline	No Change	Gain	
Small	Cntrl.	.375	.375	.250	8
	Exper.	.091	.273	.636	11
Medium	Cntrl.	.667	.333	.000	3
	Exper.	.143	.429	.429	7
Large	Cntrl.	1.000	.000	.000	1
	Exper.	.000	.667	.333	3
					33 = NN

Variable:	ADA	Treatment	Score
Base:	Medium	Control	No Change


Large
(.121)
Decline
(.242)
-.355
Experimental
(.636)
+.394
Small
(.576)
+.238
Gain
(.393)

Interpretation

(a) Large and small districts were just as likely as medium-enrollment districts to be in the experimental group.

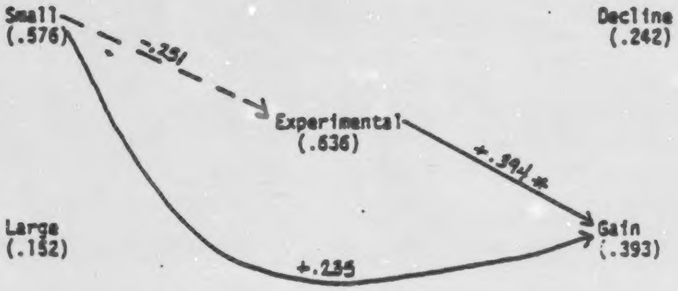
(b) Small districts were somewhat more inclined to be gainers.

(c) When district enrollment size is considered, the treatment effects remain robust.

5. District Size (Number of Schools)

# of Schools	Trtmt.	Score			N
		Decline	No Change	Gain	
Small	Cntrl.	.444	.333	.222	9
	Exper.	.100	.200	.700	10
Medium	Cntrl.	1.000	.000	.000	2
	Exper.	.000	.571	.429	7
Large	Cntrl.	.000	1.000	.000	1
	Exper.	.250	.500	.250	4
					33 = NN

Variable:	# of Schools	Treatment	Score
Base:	Medium	Control	No Change



Interpretation

(a) Small districts (i.e., districts that contain relatively few schools) were somewhat under-represented in the experimental group (compared to medium-sized districts).

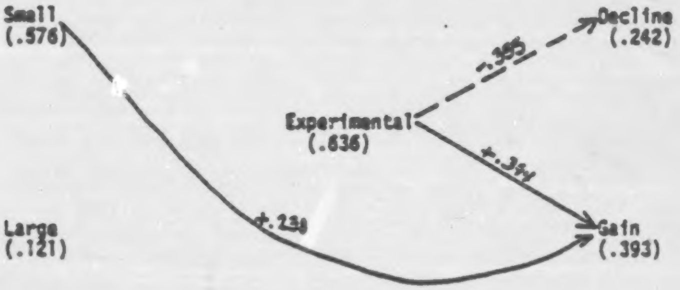
(b) Smaller districts gained more, but this was not a result of their overly abundant representation in the experimental group. Indeed, their under-representation in the experimental group acted to "suppress" their tendency to gain.

(c) When this control is introduced, the experimental group appears to be just as likely as the control group to decline. In other words, the experimental group's tendency not to decline stems from the fact that it is one third composed of medium-sized districts, none of which declined.

6. District Size (Number of Employees)

# of Employees	Trtmt.	Score			N
		Decline	No Change	Gain	
Small	Cntrl.	.375	.375	.250	8
	Exper.	.091	.273	.636	11
Medium	Cntrl.	.667	.333	.000	3
	Exper.	.143	.429	.429	7
Large	Cntrl.	1.000	.000	.000	1
	Exper.	.000	.667	.333	3
					33 = NN

Variable:	# of Employees	Treatment	Score
Base:	Medium	Control	No Change



Interpretation

(a) This flow graph echoes the story presented by the other indicators of district size (i.e., ADA and number of schools). It suggests that, net of other factors, small districts tended to gain.

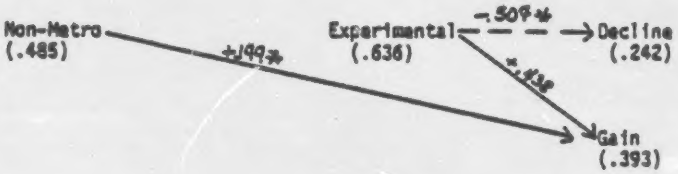
(b) There was no relationship between district size and selection into the experimental group.

(c) The treatment effects remain robust when this control is introduced.

7. Metropolitanism

Metro.	Trtmt.	Score: Decline	Score: No Change	Score: Gain	N
Metro	Cntrl.	.800	.200	.000	5
	Exper.	.000	.500	.500	12
Non-Metro	Cntrl.	.286	.429	.286	7
	Exper.	.222	.222	.556	9
					33 = NN

Variable:	Metropolitanism	Treatment	Score
Base:	Metropolitan	Control	No Change



Interpretation

(a) Metropolitanism was not related to selection into the experimental group.

(b) Districts in non-metropolitan areas were somewhat more inclined to gain than were districts in metropolitan areas. This is consistent with the findings that smaller districts tended to register gains.

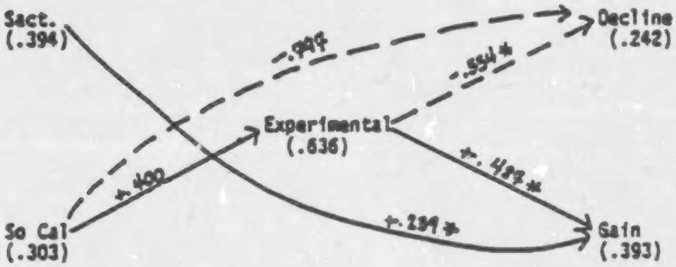
(c) Significant interactions alert us to inspect the table more closely. Here we see that the non-metropolitans who gained were primarily in the experimental group. This suggests that non-metropolitan districts, when exposed to treatment, stand to gain a lot. When not exposed to treatment, non-metropolitan districts do not display any inherent tendency to gain.

(d) Treatment effects are robust, indeed, amplified by this control variable.

8. Geographic Area of State

Area	Trtmt.	Score			N
		Decline	No Change	Gain	
Sact.	Cntrl.	.333	.333	.333	6
	Exper.	.286	.286	.429	7
Bay Area	Cntrl.	.800	.200	.000	5
	Exper.	.000	.600	.400	5
So. Cal.	Cntrl.	.000	1.000	.000	1
	Exper.	.000	.333	.667	9
					33 = NN

Variable:	Region	Treatment	Score
Base:	Bay Area	Control	No Change



Interpretation

(a) Compared to Bay Area districts, a greater population of Southern California districts were in the experimental group. Hence, both directly and indirectly, Southern California districts were less likely to be decliners (indeed, there were no decliners in Southern California).

(b) Sacramento and far northern districts, however, were more inclined to be gainers. This could be related to the greater presence in that region of small, rural districts---the same high-impact group that has been identified in our examination of other control variables.

(c) This table is riddled with interactions. Geographic area does not have a consistent effect on both experimental and control districts in any of the three regions. It is no surprise, then, that the treatment effects still emerge as strong and credible.

E. Controls for Fiscal, Legal and/or Special Factors that Could Influence a District's Ability or Will to Comply with Title IX

There are a number of circumstances, not exactly demographic in nature, that could influence district progress toward Title IX compliance. Some districts may have experienced more severe fiscal problems as a result of declining enrollments and/or Proposition 13 than others. Districts may marshal their internal resources in different ways--- ways that somehow affect our dependent variable. Some districts may feel the influence of community pressure for or against sex equity. Some districts might have encountered disruptions from labor strife during the period of this experiment. The various fiscal, legal and special factors that were defined in the Methods Chapter are now examined, again using our modified D-systems analysis. Formal flow graphs are not drawn for variables that had no discernible direct or indirect effects.

1. Does the district have a Title IX officer?

At the post-treatment cycle of data collection, all districts (both experimental and control) had Title IX officers; hence the post-treatment variable cannot explain any differences in gain scores.

Although the pre-treatment cycle showed that a few districts had not yet appointed Title IX officers (or had let their previous appointments lapse), this variable still had no effect on the experimental outcome.

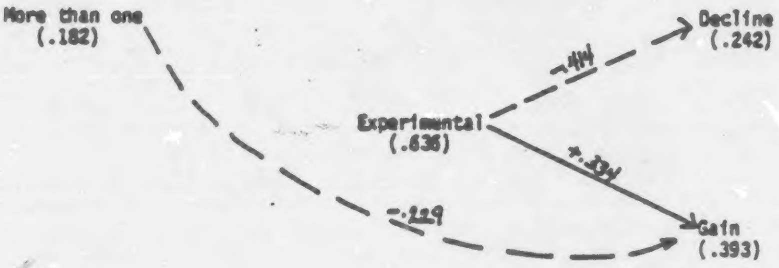
2. Other specific duties/jobs of the Title IX officer?

Again, this variable failed to show any effect on the tendency of districts to decline or gain in their Title IX compliance.

3. Title IX Officer Workload, Post-Treatment (# of other jobs/positions)

# of other positions	Treatment	Decline	No Change	Gain	N
1 other	Cntrl.	.500	.300	.200	10
	Exper.	.059	.353	.588	17
More than one	Cntrl.	.500	.500	.000	2
	Exper.	.250	.500	.250	4
					33 = NN

Variable:	# of other jobs	Treatment	Score
Base:	one other	Control	No Change



Interpretation

(a) These findings are particularly weak because there are so few cases in the "more than one" category.

(b) These data suggest that districts whose Title IX Officers had multiple positions were slightly less apt to be gainers than were districts with Title IX Officers that only had one other job.

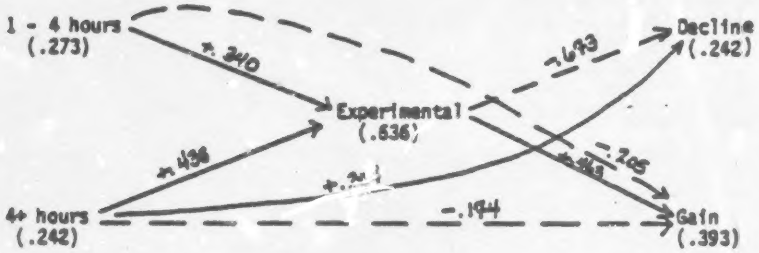
(c) This finding is further weakened by the apparent failure of this variable to account for any score differences during the pre-treatment cycle of data collection.

(d) The treatment effects remain robust in the presence of this control variable.

4. Title IX Officer Time Commitment (Hours/Day)

Time/Day	Treatment	Decline	No Change	Gain	N
		.444	.333	.222	9
Adhoc	Cntrl.	.000	.429	.571	7
	Exper.	.500	.500	.000	2
1 - 4	Cntrl.	.143	.429	.429	7
	Exper.	1.000	.000	.000	1
4+	Cntrl.	.143	.286	.571	7
	Exper.				
					33 = MN

Variable:	Hours/Day	Treatment	Score
Base:	Adhoc	Control	No Change



Interpretation

(a) This flow graph gives us some rather baffling results. Districts whose Title IX officers spent fixed amounts of time working on Title IX compliance activities were somewhat more likely to be in the experimental group; this may be an artifact of the special organizational demands placed on experimental group districts; it also could be related to the experimental group's tendency to gain and tendency not to decline.

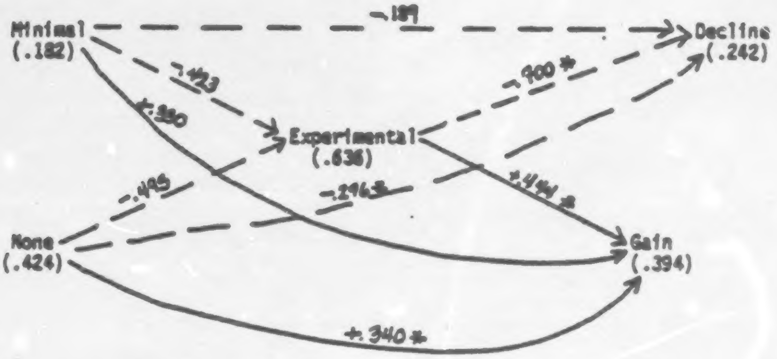
(b) Direct effects, however, are counter-intuitive. The flow graph suggests that, net of other factors, districts with Title IX officers who commit fixed amounts of time to their Title IX duties fare worse than districts whose Title IX officers operate on an "as needed" basis. This result seems credible for the group whose Title IX officers reported that they spent between one and three hours each day at their Title IX duties. The graph's suggestion that those who spend more than four hours in daily Title IX activities are more apt to decline and less apt to gain is belied by the data in the table. In this case, the D coefficients on the paths appear to be distorted by the lack of control group districts in the 4+ category. Since there was only one such district and since that district declined, estimates for the effect of this variable have been distorted.

(c) Treatment effects again appear to have survived this control variable.

5. Prior Equity Activity

	Treatment	Decline	No Change	Gain	N
Considerable	Cntrl.	1.000	.000	.000	1
	Exper.	.167	.500	.333	12
Minimal	Cntrl.	.667	.333	.000	3
	Exper.	.000	.333	.667	3
None	Cntrl.	.375	.375	.250	8
	Exper.	.000	.167	.833	6
					33 = NN

Variable:	Prior Equity Activity	Treatment	Score
Base:	Considerable	Control	No Change



Interpretation

(a) Here we find a fully-drawn model.

(b) Despite the random sampling procedure, districts that had already had considerable exposure to pro-equity training and technical assistance programs were more strongly represented in the experimental group than were districts with minimal or no prior equity contact.

(c) This, however, was no advantage to the experimental group since, apparently, those with minimal or no prior equity activity are more inclined to be gainers and less likely to be decliners.

(d) The significant table interactions in the * pathes suggest that this variable operated differently for the experimental and control groups. In particular, districts that had little or no prior equity activity who also were in the experimental group gained; those in the control group did not. Hence, the data suggest that prior equity activity per se does not affect the outcome, but that districts that have had little or no prior contact with pro-equity training and technical assistance programs are the very districts who stand to gain the most from that contact.

(e) The treatment effects are robust. In fact, we would expect to find even stronger treatment effects had the experimental group had more districts with little or no prior equity experience (i.e., the controlled paths are greater than the zero-order paths).

6. Complaint Status of District

The number of experimental and control districts that received OCR complaints during the period of this study was very small. Hence, this variable had no discernible effect on the experimental outcome. Pre-treatment complaint status also made no apparent difference.

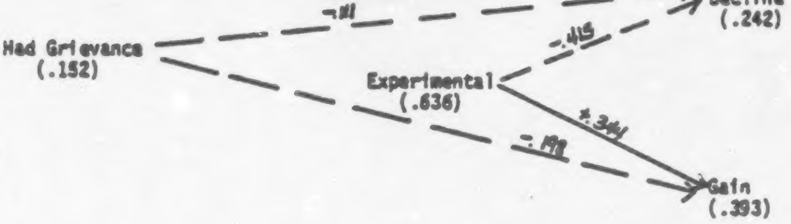
7. Pre-Treatment Grievance Status

Our analysis shows that the grievance status of districts prior to involvement in the study (in either experimental or control groups) had no effect on the experimental outcome.

8. Were any Grievances Filed During the Term of this Study?

Grievance	Treatment	Decline	No Change	Gain	N
No	Cntrl.	.556	.222	.222	9
	Exper.	.105	.368	.526	19
Yes	Cntrl.	.333	.667	.000	3
	Exper.	.000	.500	.500	2
					33 = NN

Variable:	Grievance	Treatment	Score
Base:	No Grievance	Control	No Change



Interpretation

(a) Experimental group districts were no more likely to have had a grievance filed than were control group districts.

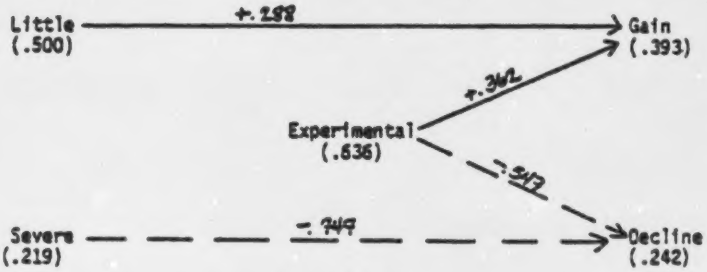
(b) Those districts that had a grievance filed were less apt to decline than were those that didn't, but they also were less apt to gain. In other words, districts that had a grievance filed, for the most part, remained stationary (no change).

(c) Treatment effects are virtually unchanged when this control is added.

9. Impact Revenue Reductions Under Proposition 13

Impact	Treatment	Decline	No Change	Gain	N
Little Impact	Cntrol.	.500	.167	.333	6
	Exper.	.200	.200	.600	10
Modest Impact	Cntrl.	.750	.250	.000	4
	Exper.	.000	.600	.400	5
Severe Impact	Cntrl.	.000	1.00	.000	2
	Exper.	.000	.600	.400	5
					32 = NN

Variable:	Impact of Reduction	Treatment	Score
Base:	Modest	Control	No Change



Interpretation

(a) The experimental group was representative of the spectrum of districts with respect to this variable.

(b) Those experiencing severe impact tended, nevertheless, not to decline (indeed, none of them did).

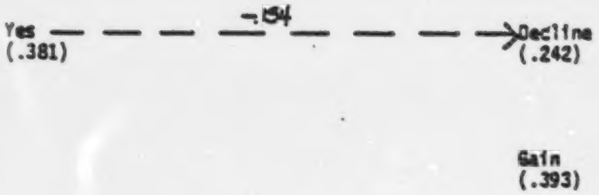
(c) On the other hand, those districts that suffered little or no ill effects from Proposition 13's revenue reductions tended to gain more than district's that suffered modest revenue reduction effects.

(d) Again, the treatment effects remain robust.

10. Current Equity District? (Experimental Group Only)

Equity District	Decline	No Change	Gain	N
Yes	.000	.375	.625	8
No	.153	.385	.461	13
				21 = NN

Variable:	Equity?	Score
Base:	No	No Change



Interpretations

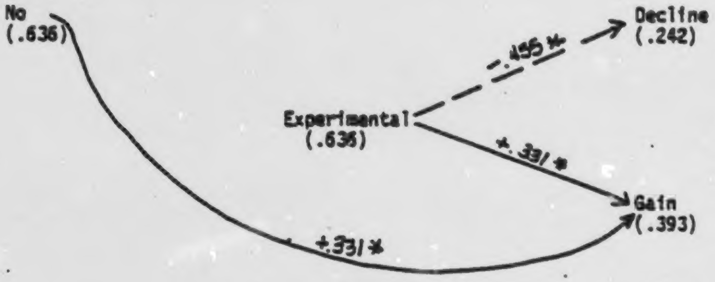
(a) This variable only concerns experimental group districts, since no control group districts were permitted to participate in Project Equity. The subset of experimental group districts that was in Project Equity tended to decline less than the non-Project Equity districts. However this difference is minute (since only two experimental group districts declined anyway).

(b) Experimental group districts that were in Project Equity were not more common than non-Project Equity districts in the gainer group.

11. Had Labor Conflict?

Labor Conflict	Treatment	Decline	No Change	Gain	N
Yes	Cntrl.	.333	.667	.000	3
	Exper.	.222	.556	.222	9
No	Cntrl.	.556	.222	.222	9
	Exper.	.000	.250	.750	12
					33 = NN

Variable:	Labor Conflict	Treatment	Score
Base	Yes	Control	No Change



Interpretation

(a) Labor conflict was not related to being in the experimental or control groups.

(b) Those without labor conflict tended to gain more than those with labor conflict. Note, however, the presence of statistical interactions in the table (denoted by asterisks* on the relevant d coefficients). The "no conflict" group that gained was mostly in the experimental group, while a majority of the "no conflict" controls actually declined. Hence, the effect of labor peace was not the same for both groups.

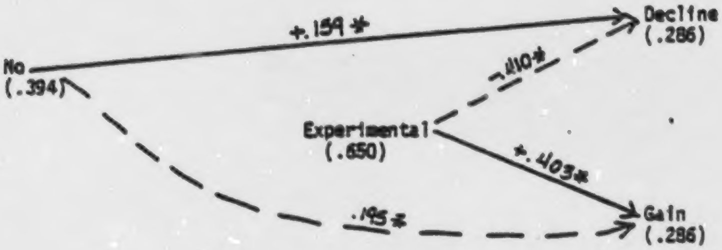
(c) Treatment effects again emerge as the most salient factors.

12. Any Major Change in District Administration

Changes?	Treatment	Decline	No Change	Gain	N
Yes	Cntrl.	.286	.429	.286	7
	Exper.	.077	.385	.538	13
No	Cntrl.	.800	.200	.000	5
	Exper.	.125	.375 .	.500	8

33 = NN

Variable:	Administration Change	Treatment	Score
Base:	Yes	Control	No Change



Interpretation

(a) At face value, the linear flow graph suggests a result opposite from that expected. It indicates that districts that experienced no administrative upheaval were more likely to decline, and less likely to gain.

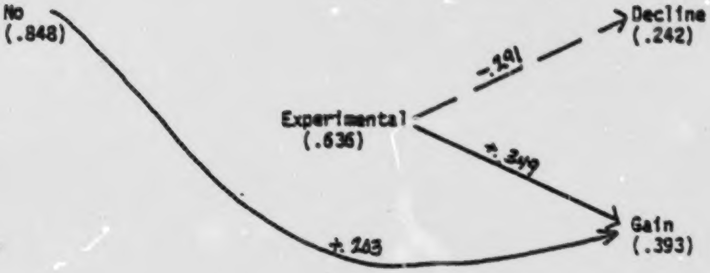
(b) This interpretation, however, is again bedeviled by statistical interactions that alert us to the likelihood that the effects are different for the two treatment groups. The "administratively stable" districts that declined were mostly control districts, while only one "stable" experimental district declined. Hence, again, we see that one can easily be deceived by taking at face value flow graph coefficients that embody statistical interactions.

(c) It is clear, however, that the treatment effects again survive the introduction of the control variable.

13. Any Major Changes in Staff Patterns or Assignments?

Change?	Treatment	Decline	No Change	Gain	N
Yes	Cntrl.	1.000	.000	.000	2
	Exper.	.000	.667	.333	3
No	Cntrl.	.400	.400	.200	10
	Exper.	.111	.333	.556	18
					33 = NN

Variable:	Staff Change?	Treatment	Score
Base:	Yes	Control	No Change



Interpretation

(a) There was no difference between the experimental and control groups in the incidence of staff upheavals.

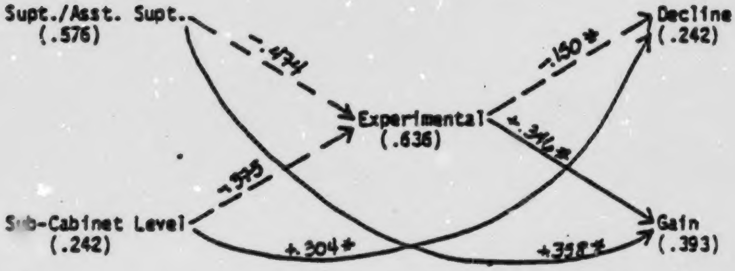
(b) Districts that had no major changes in staff patterns were slightly more inclined to gain.

(c) The treatment effects remain robust with the introduction of this control variable.

14. Power Position of Contact Person

Position	Treatment	Decline	No Change	Gain	N
Supt. or Asst. Supt.	Cntrl.	.444	.333	.222	9
	Exper.	.000	.200	.800	10
Cabinet Level	Cntrl.	.000	.000	.000	0
	Exper.	.167	.667	.167	6
Sub-Cabinet Level	Cntrl.	.667	.333	.000	3
		.200	.400	.400	5
					33 = NN

Variable:	Position	Treatment	Score
Base:	Cabinet Level (middle)	Control	No Change



Interpretation

(a) Experimental group districts tended to have contact persons who were at the middle (cabinet) level, while control group districts tended to appoint contact persons who either were at the top echelon (i.e., superintendents or assistant superintendents) or, alternatively, were at the lowest level (i.e., sub-cabinet level).

(b) This pattern explains part of the tendency of experimental group districts not to decline, though it doesn't explain much of their greater tendency to gain.

(c) As expected, districts that appoint top-echelon contact persons tend to gain--- but only when that appointment is combined with training and technical assistance akin to that provided in the experimental group (note the interactions again).

(d) Districts that appoint contact persons at the sub-cabinet level appear to be more apt to decline, though there are too few cases to have much confidence in this finding.

(e) Despite the controls, the treatment effects remain visible.

F. Controls for Organizational Climate Factors

As noted in the chapter describing our methods and measures, we also sought information about some of the more intangible, ethereal factors that might influence a district's ability or will to comply with Title IX. Although we do not have endless confidence in the efficacy of all of these measures, their relations to the treatment and dependent variables are nevertheless interesting. They are presented in this section, using the same D systems format. Again, where no direct or indirect effects are found (i.e., where there would be no arrows drawn except the zero-order arrows from the treatment to the dependent variable), the D-systems data are not reported.

1. Staff attitudes toward federal programs.

This variable failed to register any discernible effect either pre-treatment or post-treatment. Most districts responded that their staffs supported federal programs in schools, but the pattern of response was not related to any other variable in the model.

2. Community attitudes toward federal programs and toward sex equity.

Again, community attitudes toward federal programs in schools had no discernible effect, nor did community attitudes toward sex equity have an effect on score outcome.

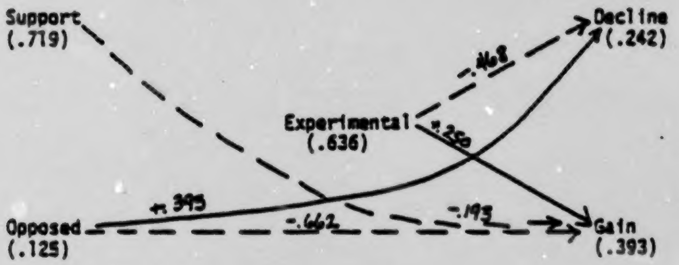
3. Staff attitude toward sex equity.

At the post-treatment cycle of data collection, nearly all districts responded that their staffs supported the thrust of sex equity programs; hence, this variable proved to be a poor predictor of district gain score.

However, the pre-treatment marginals were a bit more evenly divided. Though the data are still quite weak, they are presented in the following table and flow graph.

Attitude	Trtmt.	Score			N
		Decline	No Change	Gain	
Support	Cntrl.	.444	.333	.222	9
	Exper.	.071	.500	.429	14
Neutral	Cntrl.	.500	.500	.000	2
	Exper.	.000	.000	1.000	3
Opposed	Cntrl.	1.000	.000	.000	1
	Exper.	.333	.333	.333	3
					32 = NN

Variable:	Attitude	Treatment	Score
Case:	Neutral	Control	No Change



Interpretation

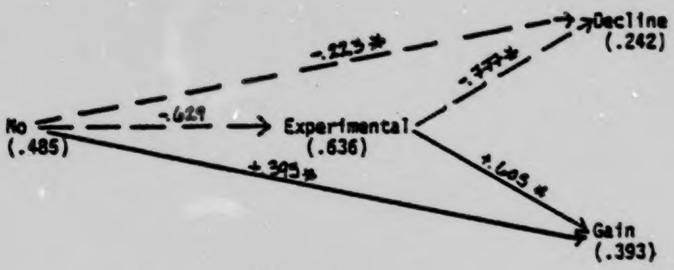
(a) This flow graph presents a peculiar picture. It suggests that self-reported "neutrals" are more likely than either "supporters" or "opposed" to be gainers. Inspection of the table reveals that the small number of cases justify skepticism; true, all of the experimental/neutrals gained; however, there only were three of them!

(b) Given the small marginals in the "neutral" and "opposed" categories, the safest conclusion to draw from this table and flow graph is that the experimental treatment again appears to have survived the introduction of a control variable.

4. District's Native Propensity Toward Innovation

Innovative?	Trtmt.	Score			N
		Decline	No Change	Gain	
Yes	Cntrl.	1.000	.000	.000	1
	Exper.	.125	.500	.375	16
No	Cntrl.	.455	.364	.182	11
	Exper.	.000	.000	1.000	5
					33 = NN

Variable:	Innovative?	Treatment	Score
Base:	Yes	Control	No Change



Interpretation

(a) The experimental groups, despite sampling precautions, tended to have more innovative districts (defined here as districts that had sought federal innovative projects at some time in the recent past).

(b) However, contrary to expectation, this imbalance actually suppressed the emergence of treatment effects, since the non-innovative districts tended to decline less and to gain more (net of other factors) than did the innovative districts.

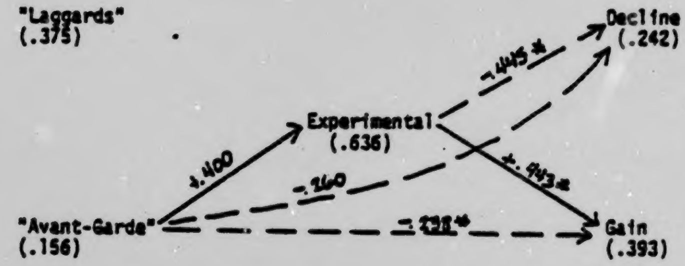
(c) Interaction effects appear to be particularly pernicious in this model. The one innovative control district was a decliner; all five non-innovative experimental districts were gainers. The table is riddled with empty cells. Hence, it is quite likely, that the flow graph's "findings" are misleading---at least with respect to the control variable.

(d) Treatment effects, however, do appear to be robust.

5. District's Native Inclination to Support Title IX (measured by length of time taken to adopt formal compliance).

Rate of Adoption	Trtmt.	Score			N
		Decline	No Change	Gain	
"Laggards"	Cntrl.	.667	.333	.000	6
	Exper.	.000	.333	.667	6
"Legals"	Cntrl.	.333	.333	.333	6
	Exper.	.222	.333	.444	9
"Avant-Garde"	Cntrl.	.000	.000	.000	0
	Exper.	.000	.600	.400	5
					32 = NN

Variable:	Adoption Rate	Treatment	Score
Base:	"Legals"	Control	No Change



Interpretation

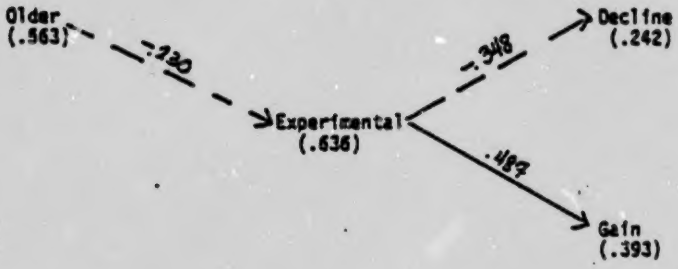
(a) "Avant-Garde" districts were more strongly represented in the experimental districts than were the "Legals". Although the "Avant-Garde" was less apt to decline, it was also less apt than the "Legals" to gain.

(b) The presence of several empty table cells and of statistical interactions makes interpretation of these data quite treacherous. Hence, our safest interpretation of this flow graph is that shows the continued robustness of the treatment effects.

6. Median Age of Teaching Staff

Age	Trtmt.	Score Decline	 No Change	 Gain	N
Younger	Cntrl.	.667	.333	.000	3
	Exper.	.273	.091	.636	11
Older	Cntrl.	.250	.500	.250	8
	Exper.	.500	.100	.400	10
					32 = NN

Variable:	Median Age	Treatment	Score
Base:	Younger	Control	No Change



Interpretation

(a) The median age of the teaching staffs of the districts in the experimental group was somewhat younger than that of the control groups.

(b) This compositional difference was not related to differences in the two group's scores in Title IX compliance.

(c) The treatment effects remain robust.

7. Average Tenure of Teaching Staff

This variable proved to have no discernible effect on either the treatment or the dependent variable.

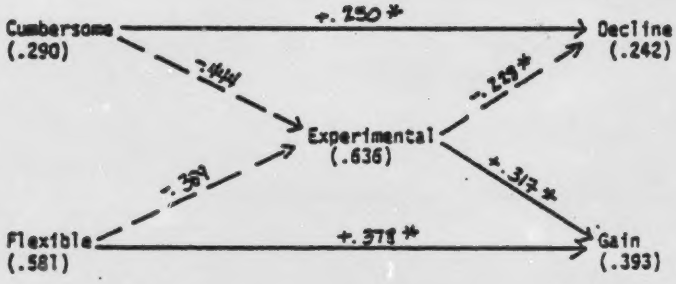
8. District efficiency and organization

This variable, as measured, did not have any discernible effect on either the treatment or the dependent variable.

9. District Red Tape (Bureaucratic Ossification)

Red Tape?	Trtmt.	Score: Decline	Score: No Change	Score: Gain	N
Cumbersome	Cntrl.	.750	.250	.000	4
	Exper.	.000	.800	.200	5
Average	Cntrl.	.000	.000	.000	0
	Exper.	.250	.500	.250	4
Flexible	Cntrl.	.286	.429	.286	7
	Exper.	.091	.091	.818	11
					31 = NN

Variable:	Red Tape	Treatment	Score
Base:	Average	Control	Gain



Interpretation

(a) Since there were absolutely no control group districts rated as "Average", our D Systems analysis shows the experimental group with less tendency to be either cumbersome or flexible; this may be a spurious finding.

(b) Cumbersome districts tended to decline. However, table interactions show that only the cumbersome control group districts declined.

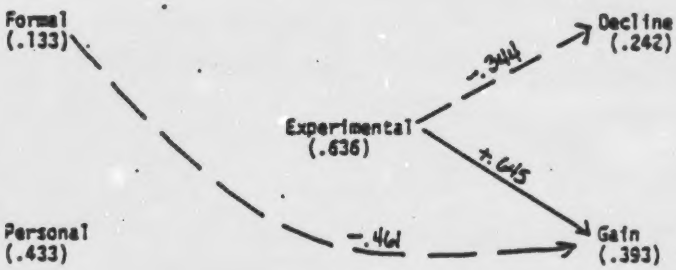
(c) Similarly, flexible districts were more inclined to gain, but this seemed to work mostly for the flexible experimental districts.

(d) Treatment effects remain robust once again.

10. Formalism/Personalism Continuum

Formalism	Trtmt.	Score Decline	 No Change	 Gain	N
Formal	Cntrl.	.500	.500	.000	2
	Exper.	.500	.500	.000	2
Blend	Cntrl.	.400	.200	.400	5
	Exper.	.125	.375	.500	8
Personal	Cntrl.	.500	.500	.000	4
	Exper.	.000	.222	.778	9
					30 = NN

Variable:	Formal/Personal	Treatment	Score
Base:	Blend	Control	No Change



Interpretation

(a) The formalism/personalism continuum was not related to selection into the experimental or control groups.

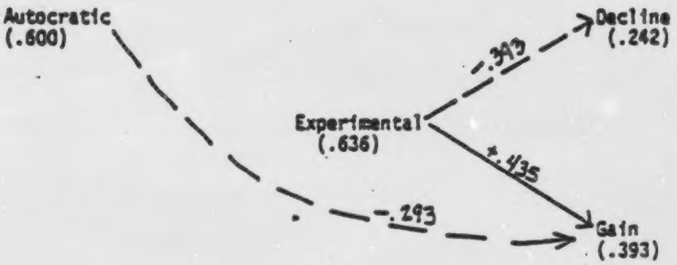
(b) Formal districts registered fewer gains than did more personalistic ones. This could be an artifact of the district size relationship that we have already noted---since smaller districts might also be the more personalistic ones.

(c) The treatment effects again emerge as salient, even after the introduction of controls.

11. District Democracy/Autocracy Continuum

Democracy	Trtmt.	Score: Decline	Score: No Change	Score: Gain	N
Democratic	Cntrl.	.250	.500	.250	4
	Exper.	.125	.125	.750	8
Autocratic	Cntrl.	.667	.333	.000	6
	Exper.	.083	.500	.417	12
					30 = NN

Variable:	Democracy/Autocracy	Treatment	Score
Base:	Democratic	Control	No Change


Autocratic
(.600)
Experimental
(.636)
Decline
(.242)
Gain
(.393)
-.393
+.435
-.293

Interpretation

(a) The democracy/autocracy continuum is not related to selection into the experimental or control groups.

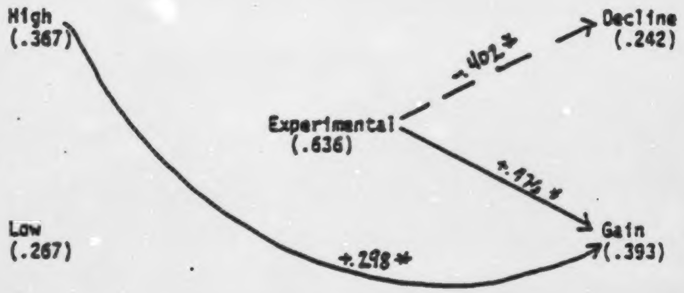
(b) Autocratic districts tended to gain somewhat less than democratic districts.

(c) The treatment effects remain robust.

12. Staff Morale

Morale	Trtmt.	Score Decline	 No Change	 Gain	N
High	Cntrl.	.400	.400	.200	5
	Exper.	.167	.000	.833	6
Average	Cntrl.	.667	.333	.000	3
	Exper.	.125	.500	.375	8
Low	Cntrl.	.500	.500	.000	2
	Exper.	.000	.500	.500	6
					30 = NN

Variable:	Morale	Treatment	Score
Base:	Average	Control	Gain



Interpretation

(a) Staff morale is not related to selection into the experimental or control group.

(b) High morale districts gained more than average morale districts. The presence of interaction terms, however, shows that only high morale experimental group districts exhibited this tendency to gain.

(c) Treatment effects remain robust.

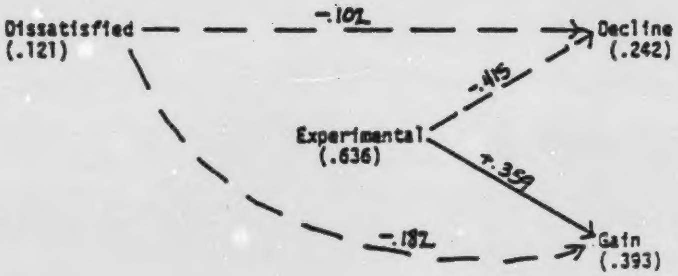
13. Staff Eagerness to Work with the CCSEE Project

This variable had no discernible effect on either the treatment or the dependent variable.

14. Staff Satisfaction with Educational Program

Satisfaction	Trtmt.	Score Decline	 No Change	 Gain	N
Satisfied	Cntrl.	.500	.300	.200	10
	Exper.	.105	.368	.526	19
Dissatisfied	Cntrl.	.500	.500	.000	2
	Exper.	.000	.500	.500	2
					33 = NN

Variable:	Satisfaction	Treatment	Score
Base:	Satisfied	Control	No Change



Interpretation

(a) Dissatisfied staffs were just as common to the experimental group as to the control group.

(b) Districts that reported their staffs to be less satisfied with the educational program (a small proportion of the districts) tended to decline less *and* to gain less than the districts with more satisfied staffs. By inference, then, this dissatisfied group was most apt to fall into the "no change" category.

(c) Treatment effects, once again, remain robust when controls are introduced.

G. Controls for Treatment Factors (Experimental Group Only)

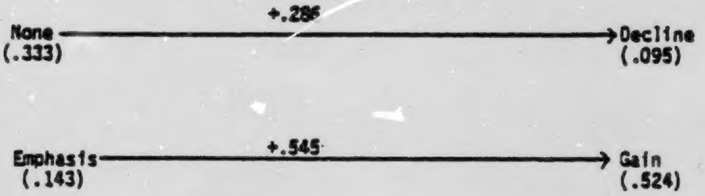
The logic of these control variables differs somewhat from those employed up to this point. Here, we do not seek to know whether some compositional difference between the experimental and control groups accounts for the measured difference in gain scores. Rather, we look at the different types of treatment given to experimental districts to ascertain whether any particular approaches or strategies seem to have made a noticeable difference (one way or the other). Our already pale statistical power is vitiated further here by the loss of cases (i.e., the control districts); hence, treatment effects are even harder to detect. For that reason, only a few treatment factor controls met the criterion for inclusion in our catalog of linear flow graphs. Before presenting them, let's note briefly the treatment variables for which no effects could be discerned.

In the set of variables that tallied the total number of discrete activities performed for districts, no effects were detected for (1) number of awareness activities; (2) number of diagnosis (OCV) activities; (3) number of technical assistance activities; (4) number of consultation activities; (5) number of team building activities; (6) number of materials selection activities; (7) number of legal pressure activities. The only one of these variables that seemed to have a fairly unequivocal positive effect on gain scores was the number of resource linkage/networking activities. A somewhat more ambiguous effect was found for the total number of activities (of all types) that were performed for districts. These effects are detailed in the following two linear flow graphs.

1. Number of Resource Linkage/Networking Activities

Activities	Decline	No Change	Gain	N
None	.285	.286	.428	7
Few	.000	.545	.455	11
Emphasis	.000	.000	1.000	3
				21 = NN

Variable: Activities	Score
Base: Few	No Change



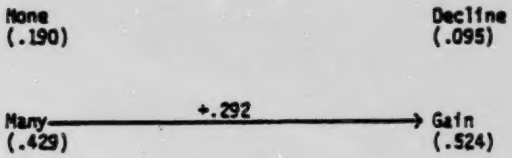
Interpretation

(a) Although the marginals are quite small, this flow graph gives us a modestly convincing result. The only two experimental districts that declined had no activities in the resource linkage/networking area. On the other hand, the three districts that emphasized this approach all gained. Though the small sample size has made other specific treatment effects inaudible, these data provide at least some evidence of the efficacy of this strategy.

2. Aggregate Number of Service Activities

Activities	Decline	No Change	Gain	N
None	.000	.500	.500	4
Few	.125	.500	.375	8
Many	.111	.222	.667	9
				21 = NN

Variable:	Aggregate Activities	Score
Base:	Few	No Change



Interpretation

(a) The effect noted here is very weak; indeed, it barely meets our criterion for inclusion in the flow graph.

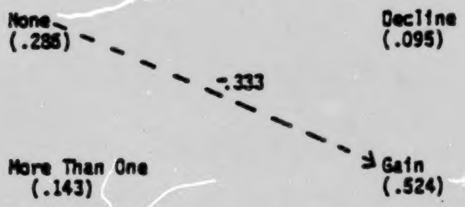
(b) As it stands, however, this result suggests that districts that received the most activities gained the most. With our data, it is impossible to tell whether this relation is indeed linear, but a small positive relation between number of activities and gain scores does appear to exist (much as we would expect).

As noted in the Methods chapter, we also wondered whether the mode of service delivery affected gain scores in any way. To ascertain this, we tallied the number of consultant days devoted either to training workshops or to technical assistance for all experimental districts. There was no apparent relationship between the amount of consultant time spent in technical assistance and the score outcomes. The small effect detected for the training workshops is described in the following linear flow graph.

3. Training Workshops (Measured by Amount of Consultant Resources Committed)

Training Workshops	Decline	No Change	Gain	N
None	.167	.500	.333	6
One	.083	.250	.667	12
More than one	.000	.667	.333	3
				21 = NN

Variable:	Training	Score
Base:	One	No Change



Interpretation

(a) Districts that had no training workshops gained less than those that had a little bit of exposure to this approach (i.e., one day's worth of training workshop).

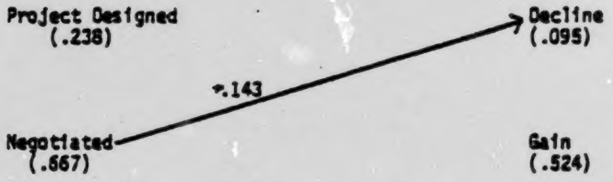
(b) Whatever the advantages of this approach, its benefits do not appear to be linear. That is, more training workshops do not necessarily lead to more gain. Notice in the table that the districts that had more than one workshop did not gain more than those that had only one; the number of cases, however, is too small to allow this effect to be drawn into our linear flow graph.

Readers will recall that all experimental districts were given the choice of three options for assessing their needs and developing their service program. They could let CCSEE design their program for them, they could unilaterally design their own treatment program, or they could negotiate with CCSEE to establish a mutually-satisfactory treatment program. The effects of this choice, to the extent that they can be determined with our small sample, are sketched in the following flow graph.

4. Approach Selected

Approach	Decline	No Change	Gain	N
District-Designed	.000	.500	.500	2
Project-Designed	.000	.400	.600	4
Negotiated	.143	.357	.500	14
				21 = NN

Variable: Approach Score
Base: District Designed No Change



Interpretation

(a) We see some statistical relationship here, but it is quite weak. (Since these analyses concern only experimental group districts, we are working with even fewer cases than in other linear flow graphs).

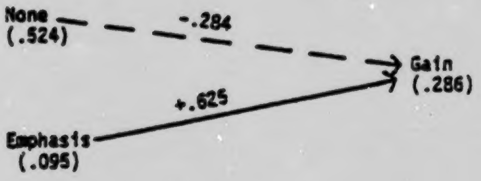
(b) Among the experimental districts that followed the "District-Designed" and "Project Designed" approaches, there were no instances of declining. The only two experimental districts that declined had selected the "Negotiation" approach. Since nearly all districts opted for negotiation, this finding does not inspire much confidence.

Finally, we now turn our attention to the question of whether the growth areas for experimental districts corresponded to the specific content areas of Title IX in which their training and technical assistance were concentrated. The data bearing on this question are presented in the following tables and flow graphs. Again, the omissions are as important as the data included. In this case, the omissions tell us that no correspondence was found between services and gain scores in the dimensions of "Access to Non-Academic Activities" and "Employment". Furthermore, our analyses detected no relationship between a service focus on "General Awareness Activities" and gain score in any specific dimension of Title IX.

5. Did Service emphasis on minimal compliance lead to gain in minimal compliance?

	Score		
# of Consultant Days	No Gain (≤ 15)	Gain (> 15)	N
None	.909	.091	11
Modest (.5 - 1 day)	.625	.375	8
Emphasis (> 1 day)	.000	1.00	2
			21 = NN

Variable:	Amount of Service	Score
Base:	Modest	No Gain



Interpretation

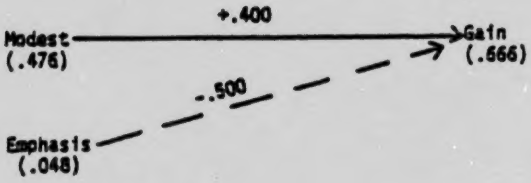
(a) There appears to be a fairly good correspondence between amount of effort and success in complying with Title IX's minimal requirements.

(b) The cell frequencies are small, hence our confidence in this finding is not endless; but the direction of the relationship in the table is consistent.

6. Did service emphasis on access to courses lead to score gains in access to courses?

	Score		N
# of Consultant Days	No Gain (≤ 15)	Gain (> 15)	
None	.500	.500	10
Modest	.100	.900	10
Emphasis	1.000	.000	1
			21 = NM

Variable:	Amount of Service	Score
Base:	None	No Gain



Interpretation

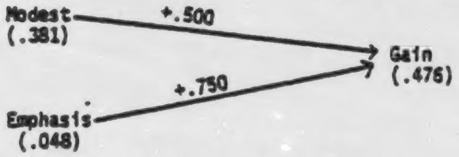
(a) Since there was only one district in the "Emphasis" group, no conclusions are drawn. Indeed, it declined--- making the D-path negative when compared to the "No Service" group. However the tiny table marginal inspired no confidence in this result.

(b) Districts that received some (modest) service in the area of access to courses actually gained in their scores on this dimension.

7. Did service emphasis on physical education lead to score gains in physical education?

# of Consultant Days	Score No Gain (≤ 15)	 Gain (> 15)	N
None	.750	.250	12
Modest	.250	.750	8
Emphasis	.000	1.000	1
			21 = NN

Variable:	Amount of Service	Score
Base:	None	No Gain



Interpretation

(a) Again, the table frequencies are small, but the results are perfectly consistent--- even suggesting the possibility of a linear relationship between amount of service and gain score.

(b) With some confidence, we can say that those that used more PE-related services gained more in the PE dimension.

8. Did Service emphasis on athletics lead to score gains in Athletics?

# of Consultant Days	Score No Gain (≤ 15)	 Gain (> 15)	N
None	.533	.467	15
Modest	.167	.833	6
Emphasis	.000	.000	0
			21 = NN

Variable:	Amount of Service	Score
Base:	None	No Gain

$$\underset{(.285)}{\text{Modest}} \xrightarrow{+.367} \underset{(.571)}{\text{Gain}}$$

Interpretation

(a) Districts that received some services related to athletics tended to gain more in athletic compliance than did districts that received no such services.

CHAPTER VII

Conclusions

Having endured a welter of statistics, stared blearily at endless flow graphs and figures, and pondered the meaning of a host of ambiguous and unambigous coefficients, we return at last to the fundamental research questions that we posed at the outset--- questions that formulated the measurement issues, the evaluation issues, and the causal issues to which our efforts have been directed. Throughout the report, we have taken pains to present whatever remotely interesting data we obtained during the study; we have offered some interpretation as we go, but we have also tried to present enough information to permit readers to draw their own conclusions. In this final chapter, we shall ignore the more ambiguous and equivocal findings and only discuss what we take to be the salient results. As such, this chapter represents the final sorting of our data. Others may differ in their interpretations of our results or in their assessment of which results were important; this chapter, however, presents the interpretive conclusions that we have drawn.

A. Can institutional change regarding Title IX be measured by a valid and reliable quantified instrument/scaling procedure?

Our overall answer to this question is "Yes". The CCSEE Title IX Implementation Assessment Instrument obtained very good data from most districts in the study. There were two keys to the quality of the data obtained from our procedure. First, the interview guide's indicators and specific probing questions elicited detailed responses, even to questions of sweeping scope. Second, the group interview procedure, as intended, seemed to prevent any one viewpoint within districts from dominating the interviews. Given these two factors, the information obtained from the interviews accorded well with our other sources of qualitative data--- the observational data obtained from the "Verification Site Visits," the reports made by the consultants who worked with the districts, and detailed data obtained from the OCV diagnostic service.

Furthermore, the operational definition of Title IX compliance embodied in the CCSEE Instrument seemed to work well; that is, our investigation suggested that the "intensity of district effort to comply with Title IX" was a good predictor of the actual practices that could be observed at the school level. This finding encourages optimism since it suggests that the gulf between "paper compliance" and "actual compliance" is not as wide as we might have feared. Indeed, the Verification Site Visits suggested that when districts had taken the compliance steps specified in the Title IX regulations, their educational and athletic programs actually were more compliant with Title IX--- a finding that argues well for continued research focus on institutional bias per se.

Having obtained reasonably accurate and detailed information on the steps districts had taken to comply with Title IX, we were able to obtain reliable Likert-type ratings of district compliance. These ratings, when converted to compliance scores, fulfilled our need to find a common metric by which different districts might be compared. To our knowledge, this has never before been accomplished (or even attempted) in any other study of sex discrimination in education; we hope that our work inspires further development of scoring and measurement techinques in this field.

Our attempt to discover Guttman scale properties in the sequential steps taken toward Title IX compliance failed. Ratings of the content-specific sequential scales written for the CCSEE Instrument did not reveal many cumulative properties, and a consistent explanation for this still eludes us. Three general explanations are plausible.

(1) School change processes might themselves be disorderly and non-sequential.

(2) The wording of the scales might have erred by being too detailed (i.e., with more scale steps than are needed to capture district transitions). Alternatively, the scores might have mis-specified the actual compliance steps taken by districts, or they might have mis-specified the sequential order in which those changes take place. Any of these scale mis-specifications could have led to the erratic scale-item correlations reported in Appendix II and to the poor scalability coefficients lamented in Chapter 4.

(3) Despite precautions taken in training, interviewers might have been confused about the mechanics of the scales. In particular, some interviewer/raters might have failed to realize the importance of checking all applicable scale items--- not just the "most applicable" or the "highest applicable" items. This problem could have been exacerbated by the cumulative presumptions implicit in the wording of some scale steps (e.g., "Based on the steps taken in 'b' and 'c' above, district has . . ..") Any of these problems might have led interviewer/raters to mark fewer scale items than were, in fact, relevant--- thereby undermining scalability.

Since we cannot resolve these issues, we leave them to further research. Research of this type could begin with a reanalysis of our data. In particular, researchers could content analyze our raw data (tapes and/or written reports) to determine categorical steps that districts take in response to each Title IX requirement. On the basis of this analysis, alternative scale formulations could be devised--- some longer and more detailed, others shorter; some presented in one sequence, others in different sequences. The alternative forms could then be used on samples of school districts, each followed by the type of follow-up qualitative observation employed in this study. Analysis of the results obtained from this procedure would help us to choose among the three alternative explanations outlined above, just as it would nudge the effort to obtain valid and reliable compliance scoring procedures closer to the Valhalla of "true score" reproducibility.

B. What is the Impact of Federal Porgrams to Reduce Sex Bias in Schools?

One cannot, of course, generalize from the CCSEE training and technical assistance services to all Federal training and techincal assistance programs--- at least not without wincing. If, however, the services provided to CCSEE's experimental group districts are roughly equivalent to those provided elsewhere (which we suspect is the case), this study provides fairly conclusive evidence that such "treatments" produce many of intended results. Indeed, the treatment effects outlined in Chapter 5 are striking and unequivocal. They are given special credibility by our random sampling procedure--- a procedure that eliminated pernicious selection biases. Furthermore, the treatment effects remained robust in the face of an onslaught of control variables in Chapter 6.

Sizable experimental group gains were noted in all areas of Title IX compliance except "minimal compliance" and "non-academic activites". The absence of noteworthy gains in the former area probably stems from the fact that most districts had met nearly all of their minimal compliance requirements before becoming involved in the project. The lack of improvement in experimental group compliance in "non-academic activities" probably testifies to the difficulty of effecting (and measuring) change in this most amorphous area of school practice.

Our analysis also provided some insight into the relationship between the services provided to and the gains sustained by districts. Except in the areas of "non-academic activities" and "employment", districts gained in the specific dimensions of Title IX that then CCSEE services had addressed.

A comparison of the efficacy of different service strategies was not particularly illuminating since no particular strategy (e.g., diagnosis/OCV, legal pressure, consciousness raising, etc.) was associated with score gains. This suggests that all approaches are equally advantageous. The notable exception, however, was the "resource linkage/networking" strategy--- an approach that clearly emerged from the pack and demonstrated greater effectiveness.

Our data do not permit discernment of the functional relation between services and gains. That is to say, our data are too thin to allow us to detect linearity, "threshold effects" or the like. However, most of the tables in Chapter 6 on the relationship between services and gain scores are free from statistical interactions (i.e., the direction of the effects is consistent). This at least whispers the possibility of some linear effects. On the other hand, we learned in Chapter 6 that those districts that had had considerable experience with equity projects prior to joining the experimental group, for the most part, fell into the "no change" group during their tenure in this study. This result suggests that, after initial exposure to pro-equity training and technical assistance districts reach a threshold beyond which additional services are greeted by diminishing returns.

C. What Other Factors Affect Acceptance of Title IX?

Our review of exogenous factors affecting district acceptance of Title IX was the aspect of the study most severely compromised by our small sample size. The basic research question is inherently inferential yet, with a sample of 33 districts, statistical inference is impossible. Our unconventional attempt to probe the data for clues to relationships must be approached with caution. Still, amidst a plethora of conditions, Chapter 6 leads us to posit a few qualified conclusions.

or 36?

(1) First and foremost, it appears that the treatment effects specified in Chapter 5 survived virtually all controls. The differences between the experimental and control groups were not due to any hidden or exogenous factors or to compositional differences between the groups.

(2) D-Systems analysis confirmed our hope that our sample was unbiased in most substantively important respects.

Our results permit us to draw a composite sketch of the "high impact" districts (The districts that tended to gain the most.). Demographically, they were:

- elementary school districts
- smaller districts (in terms of number of schools, number of employees, and average daily attendance)
- non-metropolitan districts
- districts that had not had any prior contact with pro-equity training and technical assistance programs

When we consider the internal Title IX compliance structures of the "high impact" districts, we see that they were:

- --- districts that had designated the Superintendent or the Assistant Superintendent to be the liaison to CCSEE
- --- districts in which the Title IX Officer had flexible (ad hoc) time commitments to her or his Title IX duties

The "high impact" districts were also:

- --- districts that had endured relatively little fiscal trauma as a result of Proposition 13's revenue reductions
- --- districts that were marked by flexibility rather than by cumbersome bureaucracy and red tape
- --- districts in which the teaching staff exhibited good overall morale

A similar composite sketch of the districts that declined (i.e., had lower post-treatment compliance scores than they had at pre-treatment) would reveal that "decliner" districts were:

- --- districts that serve more affluent neighborhoods
- --- districts that designated a person at the sub-cabinet level to serve as liaison to CCSEE
- --- districts that are burdened by cumbersome "red tape"

Finally, our D-systems analysis shows that the group of districts that neither improved nor worsened (i.e., the "no change" group that remained virtually stationary during the two years of the study) were characterized by:

- --- considerable sex equity activity prior to CCSEE
- --- having had grievances filed during participation in this study

While these findings do not deserve our endless confidence, they are strong enough and consistent enough to warrant our serious consideration and discussion. No study can provide results formidable enough to justify bland acceptance or termination of further questioning. Hopefully, this study will have the opposite effect--- the opening of new avenues of inquiry both by sex equity researchers and practitioners. With diligence and a little luck, our efforts will, in the long run, be so enhanced that on each future occasion when a consultant walks into an inservice training meeting, a board room, or a playing field, the groundwork will have been laid for a successful endeavor. Armed with better knowledge about our own efforts and about our audiences, we may hasten the arrival of that new morning in America when "equity" for all people is not a hollow promise but a reality.

APPENDIX A

THE CCSEE TITLE IX IMPLEMENTATION INSTRUMENT

II. ACTIVITIES PROMOTING ACCESS TO COURSES AND ACADEMIC PROGRAMS

1. What has the district done to ensure that it does not discriminate in student access to vocational-technical and industrial arts courses?

Probing Questions/Comments:

a. Have course titles and descriptions been reviewed? Were any titles and descriptions altered? Have guidelines been established for future use?

b. Has course content been reviewed for bias?

c. Have enrollment data been analyzed for patterns in enrollment? Have enrollment patterns been studied to identify reasons?

d. If this an elementary school district, are there career exploration activities which help children become aware of a broad range of career options? Have these been reviewed for bias?

RATING:

A. District has not undertaken a serious study of bias in vocational and industrial arts courses.

B. District is reviewing or has reviewed course titles and course description materials, and is eliminating biased language and requirements.

C. District has collected and analyzed course enrollment data and has identified all courses that have more than 80% enrollments of students of one sex.

D. District has further investigated courses with more than 80% students of one sex (including investigation of curriculum content, classroom environment, and teacher behavior) and has taken positive steps to eliminate gender disparities in enrollments.

E. Affirmative action is in evidence.

2. What has the district done to ensure that it does not discriminate in the way it provides student access to home economics courses?

Probing Questions/Comments:

a. Has the district reviewed course titles and descriptions? When? Were any titles and descriptions altered? Have guidelines been established for future use?

b. Has course content been reviewed for bias?

c. Have enrollment data been analyzed for patterns in enrollment? Have enrollment patterns been studied to identify reasons?

d. In elementary schools, are classroom activities involving clothing, food, etc., conducted in a comparable manner for males and females? Have books, films, and wall displays been reviewed for bias?

RATING:

A. District has not undertaken a serious study of bias in home economics courses.

B. District is reviewing or has reviewed course titles and course description materials and is eliminating biased language and requirements.

C. District has collected and analyzed course enrollment data and has identified all courses that have more than 80% enrollments of students on one sex.

D. District has further investigated causes of gender disparities in courses with more than 80% students of one sex (including investigation of curriculum content, classroom environment, and teacher behavior) and has taken positive steps to eliminate gender disparities in enrollments (e.g., by providing "boy-oriented" patterns in sewing classes, by eliminating stereotyped "feminine" displays in home economics, etc.)

E. Affirmative action is in evidence.

F. Does not apply

3. What has the district done to ensure that it does not discriminate in the way it provides student access to advanced placement courses (especially in science and math), and music, art and drama courses?

Probing Questions/Comments:

a. Has the district reviewed course titles and descriptions? When? Were any titles and descriptions altered? Have guidelines been established for future use?

b. Has course content been reviewed for bias?

c. Have enrollment data been analyzed for patterns in enrollment? Have enrollment patterns been studied to identify reasons?

d. In elementary schools, has there been a study of bias in ability grouping? Have guidelines been established to encourage students of both sexes to do well in math, science, art, etc.?

RATING:

A. District has not undertaken a serious study of bias in courses in these areas.

B. District is reviewing or has reviewed course titles and course description materials and is eliminating biased language and requirements.

C. District has collected and analyzed course enrollment data and has identified all courses that have more than 80% enrollments of students of one sex.

D. District has further investigated courses with more than 80% students of one sex (including investigation of curriculum content, classroom environment, and teacher behavior) and has taken positive steps to eliminate gender disparities in enrollments.

E. Affirmative action is in evidence.

4. What has the district done to ensure that it does not discriminate in the way it provides student access to business courses?

Probing Questions/Comments:

a. Has the district reviewed course titles and descriptions? When? Were any titles and descriptions altered? Have guidelines been established for future use?

b. Has course content been reviewed for bias?

c. Have enrollment data been analyzed for patterns in enrollment? Have enrollment patterns been studied to identify reasons?

d. In elementary schools, has there been a review of bias in describing business occupations to students? Are activities related to job skills free of bias?

RATING:

A. District has not undertaken a serious study of bias in business courses.

B. District is reviewing course titles and course description materials and is eliminating biased language and requirements.

C. District has collected and analyzed course enrollment data and has identified all courses that have more than 80% enrollments of students of one sex.

D. District has further investigated courses with more than 80% students of one sex (including investigation of curriculum content, classroom environment, and teacher behavior) and has taken positive steps to eliminate gender disparities in enrollments.

E. Affirmative action is in evidence.

F. Does not apply.

5. What has the district done to ensure that it does not discriminate in the way it provides student access to special education courses?

Probing Questions/Comments:

a. Has the district reviewed course titles and descriptions? When? Were any descriptions altered? Have guidelines been established for future use?

b. Has course content been reviewed for bias?

c. Have enrollment data been analyzed for patterns in enrollment? Have enrollment patterns been studied to identify reasons?

d. If this an elementary school district, has there been a review of bias in grouping and activities planning for students requiring special education?

RATING:

A. District has not undertaken a serious study of bias in classes in these areas.

B. District is reviewing criteria for assignment to special education classes and is eliminating biased language and requirements.

C. District has collected and analyzed class enrollment data and has identified all special education classes that have more than 80% enrollments of students of one sex.

D. District has further investigated special education classes with more than 80% students of one sex (including investigation of curriculum content, classroom environment, and teacher behavior) and has taken positive steps to eliminate gender disparaties in enrollment.

E. Affirmative action is in evidence.

F. Does not apply.

6. What has the district done to ensure that it does not discriminate in the way it provides student access to adult education courses?

Probing Questions/Comments:

a. Has the district reviewed course titles and descriptions? When? Were any titles and descriptions altered? Have guidelines been established for future use?

b. Has course content been reviewed for bias?

c. Have enrollment data been analyzed for patterns in enrollment? Have enrollment patterns been studied to identify reasons?

RATING:

A. District has not undertaken a serious study of bias in courses in these areas.

B. District is reviewing course titles and course description materials and is eliminating biased language and requirements.

C. District has collected and analyzed course enrollment data and has identified all courses that have more than 80% enrollments of students of one sex.

D. District has further investigated courses with more than 80% students of one sex (including investigation of curriculum content, classroom environment, and teacher behavior) and has taken positive steps to eliminate gender disparities in enrollments.

E. Affirmative action is in evidence.

F. Does not apply.

*7. Does the district have criteria for selecting and evaluating instructional materials regarding sex bias?

Probing Questions/Comments:

a. Have the criteria been implemented in all curriculum areas?

b. Are the criteria systematically used? If not, are informal standards being used?

c. Who was involved in developing the criteria? (Staff, community, students?)

RATING:

A. District has not developed criteria for evaluating instructional materials.

B. Criteria are currently being developed.

C. Criteria have been proposed and adopted; criteria may have been applied to materials in some but not all instructional areas.

D. Criteria have been adopted and the selection and evaluation of existing and new district instructional materials in all curriculum area is underway.

E. Affirmative action is in evidence.

F. Does not apply.

III. ACTIVITIES PROMOTING NON-DISCRIMINATION IN NON-ACADEMIC SCHOOL ACTIVITIES, SERVICES, AND PROGRAMS (TREATMENT OF STUDENTS)

8. What has the district done to ensure that all students have equitable opportunities to participate in extracurricular clubs (including service organizations, student government, dramatics/forensics activities, choral groups, pre-professional clubs and recreational clubs)?

Probing Questions/Comments:

a. Have regulations and admission requirements been reviewed and changed? Have written materials been reviewed and altered?

b. Have patterns of student participation been identified for various activities?

c. What steps have been taken to eliminate major disparities?

d. Is review an ongoing process?

e. Are boys and girls at the elementary school level encouraged to participate cooperatively in special activities?

RATING:

A. District has not undertaken a thorough study of bias in student access to extracurricular clubs.

B. District has reviewed student handbooks, regulations and descriptions of extracurricular clubs and has eliminated biases in language and requirements.

C. District has collected and analyzed data on gender patterns of student participation in extracurricular clubs and has identified major disparities.

D. District has further investigated extracurricular clubs with gender disparities in student participation and has taken positive steps to eliminate those disparities.

E. Affirmative action is in evidence.

F. Does not apply.

9. Has the district taken steps to ensure that all student activities programs such as spirit groups, dances, homecoming ceremonies,etc., are free from gender bias?

Probing Questions/Comments:

a. Have student activities been reviewed for bias?

b. What steps have been taken to expand student activities to include more students?

RATING:

A. District has not undertaken a serious study of gender bias in student activities programs.

B.. District has reviewed and analyzed the participation in and the content of all student activities (including school spirit groups, school social events, dances, rituals, homecoming ceremonies, mother-daughter/father-son banquets, etc.) and has identified areas of non-compliance with Title IX.

C. District has taken steps to eliminate gender bias in student activities programs.

D. District has taken steps to increase student involvement in all student activity programs.

E. Affirmative action is in evidence.

F. Does not apply.

10. Has the district taken steps to ensure that all honors and scholarships are free of gender bias?

Probing Questions/Comments:

a. Have written materials regarding honors and scholarships been reviewed and altered?

b. Have honors and scholarship awards been analyzed for information on how awards are distributed and the types that are given?

c. What steps have been taken to ensure equalized distribution and type?

d. Did students participate in the review?

RATING:

A. District has not undertaken a serious study of gender bias in student activities programs.

B. District has reviewed all written literature, descriptive material and regulations pertianing to honors and scholarships, and has removed all biased requirememtns and language.

C. District has collected and analyzed data on the distribution of honors and scholarships, and has identified any gender disparities.

D. District has further investigated procedures used to award honors and scholarships and has taken positive steps to eliminate gender disparities in the distribution of awards.

E. Affirmative action is in evidence.

F. Does not apply.

11. Has the district taken steps to ensure that its counseling programs are free from gender biases?

Probing Questions/Comments:

a. What efforts has the district made to train counselors in Title IX regulations? How many counselors have participated so far?

b. Have counseling materials been reviewed for bias? When? What has been done to the materials--removed, altered, etc.?

c. Has the nature of student counseling been analyzed (who/what)?

d. Have student records been examined for biased counselor remarks and recommendations?

RATING:

A. District has not undertaken a serious study of gender biases in its counseling and guidance program and practices.

B. District has reviewed all written counseling materials, counseling procedures and testing materials to identify gender biases and has removed or altered biased materials, procedures or tests.

C. District has collected and analyzed data on biases in counseling practices (e.g., by reviewing comments in student cum records for sexist statements, by analyzing counselor records on frequency, nature and disposition of their counseling contacts with students, etc.) and has identified problem areas in the counseling program.

D. District has taken positive steps to eliminate gender biases in counseling programs and practices (e.g., has conducted inservice training for school personnel based on identification of problem areas in "C" above).

E. Affirmative action is in evidence.

F. Does not apply.

12. Has the district taken steps to ensure that its career guidance centers and job placement services are free of gender bias?

Probing Questions/Comments:

a. Have career materials (print and non-print) been reviewed for bias? When? Have materials been replaced or altered? Have elementary school classroom materials been reviewed or replaced?

b. What efforts have been made to encourage exploration of non-traditional career options?

c. Have the methods of providing career education been analyzed for bias (courses used in, staff role models, community career role models)?

d. Have policies regarding student work programs been reviewed for bias?

RATING:

A. District has not undertaken a serious study of gender bias in its career guidance centers.

B. District has reviewed all materials regarding career guidance, career education and student work programs.

C. District has studied the policies and procedures used in its career guidance and student work programs and has identified areas of gender bias.

D. District has eliminated more subtle areas of gender bias (such as role modelling of guest speakers and the maintenance of male and female employment lists) in its career guidance and student work programs and has eliminated other gender biases from this sphere of school activity.

E. Affirmative action is in evidence.

F. Does not apply.

13. Has the district taken steps to ensure that testing materials are free of gender bias?

Probing Questions/Comments:

a. Have all testing materials (academic and vocational) and norms and scoring procedures been examined for bias? When?

b. Who has reviewed the materials? Is there an ongoing review?

c. Have non-biased aptitude and interest inventories been identified as alternatives?

d. Have strategies been developed for removing bias from the testing materials and procedures?

RATING:

A. District has not undertaken a serious study of gender bias in the testing materials it uses.

B. District has conducted a preliminary review of all testing materials and has identified testing materials which reflect gender bias.

C. District has reviewed current literature regarding gender bias in testing materials, has reviewed non-biased testing materials, and has developed strategies for providing testing which does not reflect gender bias.

D. District has eliminated blatant gender biased materials and has begun to implement strategies identified in "C" (e.g., purchased new materials, provided inservice training to all counselors, requested national testing services to alter reporting methods).

E. Affirmative action is in evidence.

F. Does not apply.

14. Has the district taken steps to ensure that its policies and practices pertaining to married and pregnant students are equitable and free of gender bias?

Probing Questions/Comments:

a. Are pregnant students allowed to attend the regular school program?

b. Are married/pregnant students excluded from any school activities?

c. Are there differences in rules regarding married male and female students? What are they? Have these been analyzed for bias?

RATING:

A. District has not undertaken a review of policies and practices in these areas.

B. District has reviewed student marital and pregnancy policies and has identified any gender-biased problem areas (e.g., policies that require a married or pregnant student to choose between a special program or leaving school, policies that treat pregnancy differently than other temporary disabilities, etc.)

C. District has developed plans for eliminating inequities identified in the policy review.

D. District has taken steps to eliminate gender biases in student marital and pregnancy policies and practices, and has modified policies to effect compliance with Title IX (e.g. has made equitable all rules on student marital status, has guaranteed access of pregnant students to school services, activites and programs, has medical certification requirements for pregnant students compatible with requirements of students with other temporary disabilities, has made childcare and pre-natal care instruction available to students of both sexes, etc.)

E. Affirmative action is in evidence.

F. Does not apply.

15. Has the district taken steps to ensure that rules of behavior, standards of enforcement and levels of punishment are equitable and free from gender biases?

Probing Questions/Comments:

a. Are there different codes, rules, and punishments for men and women (e.g. supension, dress codes, rules of behavior)?

b. Have these policies been studied for bias?

c. What has been done to eliminate these differences?

RATING:

A. District has not undertaken serious study of gender biases in its student discipline policies and practices.

B. District is in the process of reviewing written policies and procedures pertaining to student regulations and discipline and has eliminated all obvious gender biases from these materials (e.g., different grade-based eligibility requirements for participation in extracurricular activities, etc.)

C. District has completed review of written discipline policies and is in the process of collecting and analyzing data on gender patterns in school discipline practices, and is identifying any problem areas (e.g., by reviewing incidence, nature and disposition of disciplinary referrals).

D. District has completed review of student discipline and has taken positive programmatic steps to eliminate gender biases from student discipline policies, standards, and practices.

E. Affirmative action is in evidence.

F. Does not apply.

16. Are insurance and health benefits for students free from gender bias?

Probing Questions/Comments:

a. Has the district reviewed the provisions of student health insurance benefits for bias?

b. What steps have been taken to correct biases?

RATING:

A. District has not reviewed or analyzed its student insurance and health benefit policies and procedures for gender bias.

B. District has reviewed and analyzed its student insurance and health benefit policies and procedures and has identified any gender biases (e.g., total health care benefits for males/exemption of gynecological or maternal health benefits for females, etc.)

C. District has proposed to insurance companies means of eliminating any biases identified in its student insurance and health benefit policies, or has proposed alternatives to the existing policies.

D. District has eliminated gender biases from its student insurance and health benefit policies and practices (or has certified that biases do not exist).

E. Affirmative action is in evidence.

F. Does not apply.

IV. ACTIVITIES PROMOTING ACCESS TO PHYSICAL EDUCATION COURSES AND ACTIVITIES

17. Has the district reviewed all course descriptions and written materials pertaining to the P.E. program to ensure that these are free from gender bias and compatible with Title IX?

Probing Questions/Comments:

a. Have biased titles and language been altered or removed from course and program descriptions regarding the P.E. program? In elementary schools, has there been a review of bias in the way P.E. activities are presented to students?

b. Have course prerequisites and criteria for course admission and subsequent in-class grouping been analyzed for bias? (When planned?)

c. Have modifications to prerequisites or criteria been proposed? Adopted? Which have been implemented?

d. How have the modifications been communicated by the P.E. staff to course advisement staff and students?

RATING:

A. District has not yet reviewed the course descriptions and written literature pertaining to the P.E. program for gender bias problems.

B. District has reviewed course descriptions and descriptive literature and has removed all obvious barriers to student pursuit of non-traditional P.E. activities (including biased use of language, sex-typed course titles, etc.)

C. District has further analyzed its course descriptions and descriptive literature, has identified any prerequisites, performance standards, guidelines, and criteria for skills measurement that have an adverse effect on student pursuit of non-traditional P.E. activities.

D. District has modified all P.E. prerequisites or criteria that have an adverse effect on student pursuit of non-traditional P.E. activities.

E. Affirmative action is in evidence.

F. Does not apply.

18. Has the district taken steps to ensure that its P.E. requirements do not discriminate in the way they provide student access to physical education courses?

Probing Questions/Comments:

a. Have P.E. offerings been reviewed to reflect needs and interests of male and female students?

b. Have P.E. course objectives and proficiency requirements been reviewed for differences for males and females?

c. Have modifications to P.E. objectives and proficiency requirements been proposed? Adopted? Which have been implemented?

d. How have the modifications been communicated to the staff, course advisors and students?

RATING:

A. District has not yet investigated its P.E. curriculum to determine obstacles to compliance with Title IX.

B. District has reviewed the P.E. curriculum and has identified problem areas.

C. Suggested modifications either have been drafted and are currently pending, or are in process of being drafted.

D. District has modified P.E. requirements to ensure that P.E. objectives and requirements are the same for males and females and has disseminated them thoroughly to students and staff.

E. Affirmative action is in evidence.

F. Does not apply.

19. Has the district implemented a co-ed P.E. program for all activities (except actual participation in contact sports) at all grade levels?

Probing Questions/Comments:

a. What percent and what grade levels of the P.E. classes have been converted to co-ed? Which have not? When will all be co-ed?

b. Have skills criteria and performance standards been reviewed for bias? Who has participated in this review?

c. What methods are used to achieve groupings within co-ed classes (e.g., skills levels or sex)?

d. How was the implementation communicated to the staff? How was it monitored?

RATING:

A. District has not yet implemented a co-ed program.

B. District has implemented a co-ed program for some (at least 50%) of its P.E. activities (excluding actual playing in contact sports).

C. District has implemented a co-ed P.E. program for 100% of its P.E. activities (excluding actual playing in contact sports) at all grade levels.

D. District has implemented a co-ed P.E. program at all grade levels; furthermore, district frequently conducts on-site observations of P.E. classes (or interviews with P.E. students) to ensure that activities in P.E. classes (except actual playing in contact sports) are actually conducted on a co-ed basis.

E. Affirmative action is in evidence.

F. Does not apply.

20. Has the district taken steps to ensure that instruction in all P.E. courses and activities (including contact sports) is provided in a manner that is free from gender bias and compatible with Title IX?

Probing Questions/Comments:

a. Has instruction been reviewed? When? Who participated in review?

b. Was a policy with guidelines developed? Adopted? When?

c. How is the policy monitored?

d. How was the policy communicated to the staff?

e. What corrective actions were taken? Are others planned?

RATING:

A. District has not reviewed the manner in which instruction is provided in P.E. classes and activities.

B. District has reviewed instructional procedures in P.E. classes and activities.

C. District has established a P.E. policy that requires that instruction in all P.E. courses/activities (including contact sports) be provided in the same way for students of both sexes.

D. District has further assured itself that P.E. instruction is provided in a manner that is free from gender bias by making frequent on-site observations of P.E. instruction periods (or by interviewing students, staff, etc.): district has identified any problems in this area.

E. Affirmative action is in evidence.

D. Does not apply.

21. Has the district taken steps to ensure that P.E. facilities and physical resources are allocated in an equitable manner that is free of gender bias and compatible with Title IX?

Probing Questions/Comments:

a. How are resources and facilities now allocated at the elementary level? At the junior high level? at the high school level?

b. Have current allocations been reviewed (e.g. class schedules, equipment)?

c. What corrective actions have been taken? Are others planned?

RATING:

A. District has not reviewed the allocation and use of facilities to identify possible gender biases.

B. District has reviewed all policies, procedures, and written documents pertaining to the use of P.E. facilities and has identified all inequities in the allocation of physical resources (e.g., inequities in the favorability of schedules for facility use, purchase, use and repair of equipment).

C. District has further investigated the allocation and use of facilities to determine that in classes, facilities and physical resources (e.g., playing fields, tennis courts, swimming pools, weight and gymnastics equipment, gymnasia, locker room equipment, etc.) are equally available to female and male students; inequities have been identified.

D. District has taken positive steps to remove any inequities identified in the use and allocation of P.E. facilities and physical resources.

E. Affirmative action is in evidence.

F. Does not apply.

*22. Has the district taken steps to ensure that the P.E. program provides students with a range of activity options that allows them to pursue their interests in an environment free of gender bias?

Probing Questions/Comments:

a. Have course offerings been reviewed for bias?

b. Is there a regular review of P.E. offerings?

c. How have typically single sex courses been dealt with?

d. Has the variety of P.E. offerings been increased? At what grade levels?

e. Have students been surveyed for their interests? When?

f. Have boys and girls in elementary schools been encouraged to play games cooperatively on the Playground and in the gym?

RATING:

A. District has not undertaken any review of or restructuring of its P.E. course/activities options in connection with its Title IX compliance efforts.

B. District has expanded the range of P.E. activity options open to students, but has not based this on any survey of student interest.

C. District has conducted a survey of student P.E. activity interests and has revised its range of P.E. activity options in accord with this survey.

D. District periodically re-surveys students and revises its P.E. activity options accordingly.

E. Affirmative action is in evidence.

F. Does not apply.

*23. Has the district taken steps to ensure that P.E. staff are treated in a fair and equitable manner that is free of gender bias and compatible with Title IX?

Probing Questions/Comments

a. How are P.E. staff assignments determined?

b. Is distribution of male and female P.E. staff disproportionate to class instructor loads, locker room supervision, etc.?

c. Are P.E. assignments (e.g., department chair) made in the same way they are made in other departments; i.e., appointment by the principal, election by peers, etc.?

d. Has a plan been developed to eliminate inequities in space and resource allocations, extra pay or assignments for P.E. staff?

e. What steps have been taken to eliminate the inequities? Have suggestions been solicited from only one gender?

RATING:

A. District has not reviewed and evaluated its policies and practices regarding treatment of P.E. staff, nor has it interviewed its P.E. staff to ascertain possible gender biases.

B. District has reviewed distribution of class and activity assignments, allocation of fiscal and space resources, extra pay, etc., and has identified any inequities in the treatment of P.E. staff.

C. District has further investigated the treatment of P.E. staff by interviewing P.E. staff members and soliciting their perceptions of any inequities in staff treatment.

D. Based on information collected in "B" and "C" above, district has taken positive steps to eliminate inequities in treatment of P.E. staff.

E. Affirmative action is in evidence.

F. Does not apply.

*24. Has the district involved the P.E. staff in the process of implementing Title IX?

Probing Questions/Comments:

a. How has the district involved P.E. staff in implementing Title IX?

b. How have their contributions been used in the implementation process or in the decisions to implement a new program?

c. To what degree are P.E. staff involved in Title IX inservice activities?

d. What assessment has been made of P.E. staff attitudes toward Title IX?

e. What strategies are planned to involve P.E. staff in Title IX implementation?

RATING:

A. District has not involved P.E. staff in the process of implementing Title IX.

B. District has minimally involved P.E. staff in formulating plans for Title IX implementation.

C. District has considered P.E. staff attitudes as important to successful implementation of Title IX; hence it has substantially involved the staff in planning Title IX implementation.

D. District has sponsored activities such as inservice training to facilitate positive attitudes and enthusiastic acceptance of Title IX among P.E. staff members.

E. Affirmative action is in evidence.

F. Does not apply.

V. ACTIVITIES PROMOTING NON-DISCRIMINATION IN ATHLETICS

25. Does the district have and maintain a written general plan for evaluati and achieving compliance with the Title IX regulations pertaining to school athletics?

Probing Questions/Comments:

a. Does the district plan to cover all Title IX items regarding athletics (e.g., numbers of sports, numbers of coaches, pay, equipment)?

b. Who was involved in developing the plan?

c. How was the athletic plan disseminated and to whom?

RATING:

A. District has no general plan for implementing Title IX's requirements regarding athletics.

B. District is in the process of writing a general plan for Title IX implementation.

C. District has a written general plan for compliance with Title IX's regulations pertaining to athletics, and this plan is adequate in its detail, scope, and faithfulness to law.

D. District has an adequate written plan, and it has been maintaining the plan by implementing prescribed program changes on schedule.

E. Affirmative action is in evidence.

F. Does not apply.

*26. Has the district involved the athletic coaching staff in the process of implementing Title IX, and has the district provided additional services (e.g., inservice training) to facilitate positive staff acceptance of Title IX implementation in athletics?

Probing Questions/Comments?

a. How have the athletic staff been utilized in the process of Title IX implementation?

b. Has the district provided opportunities for training for female coaches and officials?

c. What types of district or consultant personnel are used for inservice training?

RATING:

A. District does not recognize need for staff development/inservice to insure a positive implementation of Title IX in athletics.

B. Some of the coaching staff were involved in Title IX discussions, review, and analysis, and in accomplishing or completing the needed subsequent changes; inservice activities were not deemed necessary.

C. While involvement of key coaching staff continues in planning for Title IX implementation, district is also providing inservice to entire athletic staff.

D. Involvement of all athletic personnel was paramount in all Title IX reviews, analysis and subsequent needed changes in the policy, programs, procedures and philosophy tenet; inservice opportunities were provided to insure a smooth, positive implementation of the spirit and the letter of the law as it affects athletics.

E. Affirmative action is in evidence

F. Does not apply.

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27. Has the district taken steps to ensure that boys' and girls' athletic programs are comparable in terms of equipment, supplies and practice and game schedules?

Probing Questions/Comments:

a. How are equipment and supplies allocated for boys' and girls' athletics?

b. What are the criteria for allocating equipment and supplies?

c. Does the district have an equitable system for scheduling like sports practice and game schedules?

d. How are length of seasons and number of teams in each sport comparable?

e. Do teams in like sports have equal access to facilities?

RATING:

A. District has not reviewed athletic programs for comparability of equipment, supplies and scheduling.

B. District has reviewed distributions of athletic equipment, supplies and schedules and has identified inequities.

C. District has made minor adjustments in the allocation of facilities and equipment, and in the scheduling of practices and games. Inequities still ex

D. District has developed an intermediate plan for equalization of existing resources and/or a long-term plan for further equalization of resources (when capital outlay permits).

E. Affirmative action is in evidence.

F. Does not apply.

28. Has the district taken steps to ensure that boys' and girls' athletic programs are comparable in terms of publicity and general school support (e.g., from faculty, from spirit groups, etc.)?

Probing Questions/Comments:

a. Has the district reviewed the deployment of bands, cheerleading, pep rallies, etc. at male and female athletic events?

b. Does the school and local newspaper provide comparable coverage of girls' and boys' sports?

RATING:

A. District has not yet undertaken a comparative review of publicity and support accorded both boys' and girls' athletic programs.

B. District is reviewing publicity and school support for athletics (including local and school newspapers, booster club announcements, pep club posters and banners, etc.) and has identified problem areas (e.g., gender disparities in amount and status of athletic publicity, disparities in amount and status of spirit group support, scheduling of school's major rallies, assemblies and festivities to support male varsity football events, organizing major faculty social events to correspond to traditional homecoming or "big game" events, etc.)

C. District has completed review of publicity and school support for athletics, has identified inequities, and has developed plans for corrections of problem areas.

D. District has taken positive, programmatic steps to eliminate gender biases in publicity and school support for athletics (as identified in "B" and "C" above.

E. Affirmative action is in evidence.

F. Does not apply.

29. Has the district taken steps to ensure that athletic programs afford equitable opportunities for awards, scholarships and recognition for girl and boy athletics?

Probing Questions/Comments:

a. Are athletic club memberships open to both girls and boys?

b. Are the criteria for admission to athletic clubs equitable? Are athletic scholarships and awards available in proportion to the number of females participating in those sports?

c. Does the district actively recruit females to apply for athletic scholarships?

d. Are there consistent and equitable award policies within the district?

e. Are community service club awards given without regard to gender?

RATING:

A. District has not yet reviewed athletics award procedures and practices to ensure compliance with Title IX.

B. District has reviewed all regulations, procedures, and written descriptive material pertaining to the award of athletic honors and scholarships, and has identified all discriminatory requirements and all gender-biased language.

C. District has further analyzed student opportunities available for athletic awards, recognition and scholarships (including the number and scope of athletic banquets, the distribution of athletic jackets and letters, etc.) and has identified more subtle inequities in the awarding of athletic honors.

D. Based on "B" and "C" above, district has taken steps to ensure that awards are comparable in all sports, and the same in like sports, and that opportunities for recognition are equitable for boys' and girls' athletics.

E. Affirmative action is in evidence.

F. Does not apply.

30. Has the district taken steps to ensure that athletic budgets are comparable with respect to the needs and interests of students?

Probing Questions/Comments:

a. What percentage of the overall athletic budget is expended on boy's sports as compared to girls' sports?

b. Have criteria been established based on needs and interests of students for allocation of athletic budgets? Who was involved in establishing the criteria?

c. What sports in the district do not make a profit? Process used to determine level of support? How does the district support non-profit sports?

d. Are there comparable allocations for transportation, housing, meals, etc., for the regular season and playoffs?

RATING:

A. No data has been collected for comparison of male and female athletic budgets.

B. Data has been collected and analyzed to determine if athletic budgets are comparable with respect to needs of all students.

C. District is in the process of developing equitable procedures for budget allocation and implementation.

D. Full compliance regarding budget allocations was achieved no later than July 21, 1978.

E. Affirmative action is in evidence.

F. Does not apply.

31. Has the district taken steps to ensure that efforts and procedures for recruitment from the student body of athletes for participation in athletic programs are of comparable scope and intensity?

Probing Questions/Comments:

a. Has the district reviewed the sports recruitment processes to eliminate gender bias?

b. Have new recruitment procedures been developed for any sport?

c. Has the counseling staff received training on non-biased advisement of recruitment procedures?

RATING:

A. No review of recruitment practices has taken place.

B. A review of recruitment efforts has been made, inequities discovered and analyzed and plans made for the overcoming of the identified shortcomings.

C. District is in process of implementing plans for equitable athletic recruitment of both female and male students.

D. District has eliminated gender biases from procedures for recruitment of student athletes.

E. Affirmative action is in evidence.

F. Does not apply.

32. Has the district taken steps to ensure that the athletic staff are treated in a fair and equitable manner that is free of gender bias and compatible with Title IX?

Probing Questions/Comments:

a. How are athletic staff assignments determined?

b. Has a plan been developed to eliminate inequities in space and resource allocations, extra pay or assignments for athletic staff?

c. What steps have been taken to eliminate these inequities?

RATING:

A. District has not reviewed and evaluated its policies and practices regarding treatment of athletic staff to ascertain possible gender biases.

B. District has reviewed distribution of coaching assignments, allocation of fiscal and space resources, coaching pay rates, etc., and has identified inequities in the treatment of athletic staff.

C. District has further investigated the treatment of athletic staff by interviewing athletic staff members and soliciting their perceptions of any inequities in staff treatment.

D. Based on imformation collected in "B" and "C" above, district has taken positive steps to eliminate inequities in the treatment of athletic staff.

E. Affirmative action is in evidence.

F. Does not apply.

VI. ACTIVITIES PROMOTING NON-DISCRIMINATION IN DISTRICT EMPLOYMENT AND PERSONNEL POLICIES AND PRACTICES

33. Has the district reviewed its written employment policies, job descriptions, etc., to ensure that these are free from gender bias and compatible with Title IX?

Probing Questions/Comments:

a. Have written employment materials been examined for bias?

b. Have employment policies been reviewed? Have problem areas been identified?

c. Do job assignments preclude application by one sex?

RATING:

A. District has not inaugurated a thorough review of its written employment policies.

B. District has begun a thorough review of written employment policies, job eligibility requirements, job description, etc., and is presently identifying areas of non-compliance.

C. District has completed a thorough review of its written employment policies, job eligibility requirements, etc., and has recommended policy changes for the Board.

D. Through Board and Administrative action, written district employment policies, job eligibility requirements, job descriptions, etc., have been modified and are currently being implemented to achieve compliance with Title IX.

E. Affirmative action is in evidence.

F. Does not apply.

34. Has the district reviewed its job recruitment procedures to ensure that they are free of gender bias and compatible with Title IX?

Probing Questions/Comments:

a. Have new recruitment policies been developed to recruit applicants in under-represented areas (e.g., women in administration, men in primary grades)?

b. Have job recruitment processes been reviewed for bias?

c. Do job announcements include a statement of non-discrimination?

d. Are any jobs advertised on the basis of sex? Why?

RATING:

A. District has not reviewed its job recruitment procedures.

B. District has reviewed some recruitment and job advertisement practices for gender bias, but has not yet changed existing practices.

C. District has made extensive changes in job recruitment and advertising practices.

D. District has analyzed and identified under-represented areas for a recruitment program.

E. Affirmative action is in evidence.

F. Does not apply.

35. Has the district reviewed its employment interview procedures to ensure that they are free of gender bias and compatible with Title IX?

Probing Questions/Comments:

a.. Has the pre-employment process been analyzed to identify problem points in the precess?

b. Have policies been developed which ensure a diverse applicant pool?

c. Has the distribution of applicants for recent openings been analyzed by sex?

d. Have interviewers received training on the Title IX regulations regarding employment?

e. Is the Title IX coordinator a member of the screening committee?

RATING:

A. District has not reviewed its employment interview procedures.

B. District has reviewed the pre-employment interview procedures and has implemented changes.

C. District provides training to job interviewers regarding the conduct of a "legal" interview.

D. District has further analyzed its hiring patterns, has analyzed male and female ratios of applicants at each step of the pre-employment process, has identified those steps that adversely affect the diversity of the applicant pool, and has taken positive steps to eliminate discrimination in these pre-employment application steps.

E. Affirmative action is in evidence.

F. Does not apply.

36. Has the district reviewed the gender distribution of employees, (e.g., in teaching, coaching, administrative assignments, etc.), identified inequities, and formulated affirmative action goals, strategies and timetables based on this review?

Probing Questions/Comments:

a. Does the Affirmative Action plan contain goals and timetables for job categories where inequities exist?

b. What strategies have been utilized to achieve adequate gender distribution?

c. Which goals have been reached?

RATING:

A. District has not reviewed the gender distribution of employees.

B. District has collected and analyzed data on the gender distribution of employees, and has identified those job categories in which gender disparities exist.

C. Based upon information noted in "B" above, district has established an Affirmative Action policy that sets goals and timetable for equalization of gender distributions in jobs where gender disparities exist.

D. The Board and the Administration have adopted Affirmative Action policy established through "B" and "C" above.

E. Affirmative action is in evidence.

F. Does not apply.

37. Has the district reviewed all staff insurance, health and other fringe benefits to ensure that these are free of gender bias and compatible with Title IX?

Probing Questions/Comments:

a. Do health and life insurance benefits differ for men and women (e.g., maternity benefits, sterilization procedures)?

b. Has the district requested changes in the existing policies if there are different benefits?

c. Are there some separate eligibility criteria for males and females for any benefit program?

d. Are there different retirement ages by sex for retirement and pension programs?

RATING:

A. District has not reviewed staff insurance, health and other fringe benefits for gender bias problems.

B. District has reviewed all staff insurance, health, and other fringe benefits and has identified all gender inequities (e.g., different life insurance benefits for males and females, total health insurance coverage for males/exemption of gynecological or pregnancy coverage for females, etc.).

C. District has developed interim and/or long term plans for eliminating inequities identified in "B" above.

D. District has taken steps to eliminate inequities identified in "B" above.

E. Affirmative action is in evidence.

F. Does not apply.

38. Has the district reviewed all staff development programs (particularly those that are directed toward development of administrators and coaches) to ensure that these are free of gender bias and compatible with Title IX?

    Probing Questions/Comments:

    a. Are there programs for retraining of existing staff for new positions (e.g., administration, special education)?

    b. Are there district procedures which potentially limit participation in staff development programs?

    c. How are staff development programs advertised?

    d. What new procedures have been developed to increase participation?

RATING:

A. District has not reviewed its staff development programs for gender bias.

B. District analyzed the gender distribution of participants in staff development programs and has identified any gender inequities.

C. District has further analyzed its staff development programs and has identified those advertising, recruitment, and operational procedures that limit participation by staff of either sex.

D. District has taken positive steps to eliminate gender inequities identified in "B" and "C" above (or has certified, upon review, that no inequities exist).

E. Affirmative action is in evidence.

F. Does not apply.

39. Has the district reviewed its pay scales and compensation rates for classified employees to ensure that these are free of gender bias and compatible with Title IX? For certificated employees?

Probing Questions/Comments:

a. Do classified job categories differ when services by men and women are compared. Do certificated job categories differ?

b. Have pay inequities in classified job categories been identified? Have pay inequitites in certificated job categories been identified?

c. Have plans been developed for eliminating pay and compensation inequities?

d. Are there separate pay scales for male and female coaches?

RATING:

A. District has not reviewed its pay scales and compensation rates in connection with Title IX.

B. District has begun to review pay scales and compensation rates and has identified inequities based on gender-stereotyping of job classifications (e.g., secretaries earn considerably less than custodians/groundskeepers).

C. District has developed a plan for elimination of inequities identified in "B" above.

D. District has implemented a new compensation system that is free of gender bias.

E. Affirmative action is in evidence.

F. Does not apply.

40. Has the district reviewed its use and treatment of staff to ensure that these are free of gender bias and compatible with Title IX?

Probing Questions/Comments:

a. How are staff selected for extra duty assignments?

b. Are extra duty assignments rotated or shared by all staff?

c. Are extra duty assignments generally attached to certain staff postitions?

d. Is there a consistent process of making assignments across departments (e.g., selection of department chair)?

e. How are activity assignments (e.g., club sponsorship) determined?

f. How are staff selected to attend conferences and training programs?

g. Have practices which tend to favor one sex for assignments and staff development opportunities been identified?

h. Has a plan been identified to remedy these problem areas?

RATING:

A. District has not reviewed its use and treatment of staff in connection with Title IX.
B. District reviewed its policies regarding use and treatment of staff (including staff activity assignments in school, allocation of extra duties/pay, etc.) and has identified problem areas (e.g., those practices which discriminate against staff on the basis of sex or which establish sex-stereotyped roles for use of staff).
C. District has developed plans to eliminate inequities in the use of treatment of staff identified in "B" above.
D. District has taken steps to remedy problem areas identified in "B" above.
E. Affirmative action is in evidence.
F. Does not apply.

APPENDIX B

PRE- AND POST- TREATMENT
RAW FREQUENCIES OF RESPONSE
AND POST-TREATMENT SCALE-ITEM CORRELATIONS

1. What has the district done to ensure that it does not discriminate in student access to vocational-technical and industrial arts courses?

RESPONSES	Frequencies			
	Pre-Test		Post-Test	
	Control	Exper.	Control	Exper.
A. District has not undertaken a serious study of bias in vocational and industrial arts courses.	4	10	8	1
B. District is reviewing or has reviewed course titles and course description materials, and is eliminating biased language and requirements.	2	8	7	10
C. District has collected and analyzed course enrollment data and has identified all courses that have more than 80% enrollments of students of one sex.	1	3	0	4
D. District has further investigated courses with more than 80% students of one sex (including investigation of curriculum content, classroom environment, and teacher behavior) and has taken positive steps to eliminate gender disparities in enrollments.	4	5	1	5
E. Affirmative action is in evidence.	3	4	1	6
F. Does not apply.	3	2	1	3

Scale Item Correlations (Yule's Q)

	E	D	C	B	A
E.	1.0000	0.0345	-0.3617	1.0000	-0.6471
D.	0.0345	1.0000	0.9535	-0.4545	-1.0000
C.	-0.3617	0.9535	1.0000	-0.6190	-1.0000
B.	1.0000	-0.4545	-0.6190	1.0000	-0.7391
A.	-0.6471	-1.0000	-1.0000	-0.7391	1.0000

2. What has the district done to ensure that it does not discriminate in the way it provides student access to home economics courses?

RESPONSES	Frequencies			
	Pre-Test		Post-Test	
	Control	Exper.	Control	Exper.
A. District has not undertaken a serious study of bias in home economics courses.	4	11	7	1
B. District is reviewing or has reviewed course titles and course description materials and is eliminating biased language and requirements.	2	6	7	10
C. District has collected and analyzed course enrollment data and has identified all courses that have more than 80% enrollments of students on one sex.	2	3	0	5
D. District has further investigated causes of gender disparities in courses with more than 80% students of one sex (including investigation of curriculum content, classroom environment, and teacher behavior) and has taken positive steps to eliminate gender disparities in enrollments (e.g., by providing "boy-oriented" patterns in sewing classes, by eliminating stereotyped "feminine" displays in home economics, etc.)	3	5	1	5
E. Affirmative action is in evidence.	5	4	0	5
F. Does not apply.	2	2	2	1

Scale Item Correlations (Yule's Q)

	E	D	C	B	A
E.	1.0000	-0.0323	-0.1765	0.2584	-0.5254
D.	-0.0323	1.0000	0.2857	-0.6410	-1.0000
C.	-0.1765	0.2857	1.0000	-0.4815	-1.0000
B.	0.2584	-0.6410	-0.4815	1.0000	-0.3043
A.	-0.5254	-1.0000	-1.0000	-0.3043	1.0000

3. What has the district done to ensure that it does not discriminate in the way it provides student access to advanced placement courses (especially in science and math), and music, art and drama courses?

RESPONSES	Frequencies			
	Pre-Test		Post-Test	
	Control	Exper.	Control	Exper.
A. District has not undertaken a serious study of bias in courses in these areas.	4	11	8	3
B. District is reviewing or has reviewed course titles and course description materials and is eliminating biased language and requirements.	2	8	6	9
C. District has collected and analyzed course enrollment data and has identified all courses that have more than 80% enrollments of students of one sex.	2	2	0	4
D. District has further investigated courses with more than 80% students of one sex (including investigation of curriculum content, classroom environment, and teacher behavior) and has taken positive steps to eliminate gender disparities in enrollments.	4	3	0	7
E. Affirmative action is in evidence.	5	4	1	3
F. Does not apply.	2	3	0	1

Scale Item Correlations (Yule's Q)

	E	D	C	B	A
E.	1.0000	0.1176	-0.2963	0.6154	-0.6667
D.	0.1176	1.0000	0.6923	-0.5217	-1.0000
C.	-0.2963	0.6923	1.0000	-0.4000	-1.0000
B.	0.6154	-0.5217	-0.4000	1.0000	-0.6250
A.	-0.6667	-1.0000	-1.0000	-0.6250	1.0000

4. What has the district done to ensure that it does not discriminate in the way it provides student access to business courses?

RESPONSES	Frequencies			
	Pre-Test		Post-Test	
	Control	Exper.	Control	Exper.
A. District has not undertaken a serious study of bias in business courses.	5	8	7	2
B. District is reviewing course titles and course description materials and is eliminating biased language and requirements.	2	8	6	9
C. District has collected and analyzed course enrollment data and has identified all courses that have more than 80% enrollments of students of one sex.	2	5	0	4
D. District has further investigated courses with more than 80% students of one sex (including investigation of curriculum content, classroom environment, and teacher behavior) and has taken positive steps to eliminate gender disparities in enrollments.	4	2	0	5
E. Affirmative action is in evidence.	3	0	2	3
F. Does not apply.	3	6	2	3

Scale Item Correlations (Yule's Q)

E.	1.0000	-1.0000	-1.0000	0.2500	-1.0000
D.	-1.0000	1.0000	0.2500	-0.4000	-1.0000
C.	-1.0000	0.2500	1.0000	0.6667	-1.0000
B.	0.2500	-0.4000	-0.6667	1.0000	-0.3636
A.	-1.0000	-1.0000	1.0000	-0.3636	1.0000

5. What has the district done to ensure that it does not discriminate in the way it provides student access to special education courses?

RESPONSES	Frequencies			
	Pre-Test		Post-Test	
	Control	Exper.	Control	Exper.
A. District has not undertaken a serious study of bias in classes in these areas.	7	14	10	8
B. District is reviewing criteria for assignment to special education classes and is eliminating biased language and requirements.	0	2	3	4
C. District has collected and analyzed class enrollment data and has identified all special education classes that have more than 80% enrollments of students of one sex.	3	2	0	2
D. District has further investigated special education classes with more than 80% students of one sex (including investigation of curriculum content, classroom environment, and teacher behavior) and has taken positive steps to eliminate gender disparaties in enrollment.	3	2	0	6
E. Affirmative action is in evidence.	2	2	0	3
F. Does not apply.	0	3	0	2

Scale Item Correlations (Yule's Q)

E.	1.0000	0.3750	-1.0000	-1.0000	-1.0000
D.	0.3750	1.0000	0.6429	-0.1364	-1.0000
C.	-1.0000	0.6429	1.0000	-1.0000	-0.1429
B.	-1.0000	-0.1364	-1.0000	1.0000	-1.0000
A.	-1.0000	-1.0000	-0.1429	-1.0000	1.0000

6. What has the district done to ensure that it does not discriminate in the way it provides student access to adult education courses?

RESPONSES:	Frequencies			
	Pre-Test		Post-Test	
	Control	Exper.	Control	Exper.
A. District has not undertaken a serious study of bias in courses in these areas.	5	6	2	2
B. District is reviewing course titles and course description materials and is eliminating biased language and requirements.	1	4	2	6
C. District has collected and analyzed course enrollment data and has identified all courses that have more than 80% enrollments of students of one sex.	1	5	0	1
D. District has further investigated courses with more than 80% students of one sex (including investigation of curriculum content, classroom environment, and teacher behavior) and has taken positive steps to eliminate gender disparities in enrollments.	1	2	0	1
E. Affirmative action is in evidence.	1	0	1	2
F. Does not apply.	5	9	8	10

Scale Item Correlations (Yule's Q)

E.	1.0000	-1.0000	-1.0000	0.2857	-1.0000
D.	-1.0000	1.0000	-1.0000	-1.0000	-1.0000
C.	-1.0000	-1.0000	1.0000	-1.0000	-1.0000
B.	0.2857	-1.0000	-1.0000	1.0000	-1.0000
A.	-1.0000	-1.0000	-1.0000	-1.0000	1.0000

7. Does the district have criteria for selecting and evaluating instructional materials regarding sex bias?

RESPONSES	Frequencies			
	Pre-Test		Post-Test	
	Control	Exper.	Control	Exper.
A. District has not developed criteria for evaluating instructional materials.	9	15	7	6
B. Criteria are currently being developed.	0	1	0	4
C. Criteria have been proposed and adopted; criteria may have been applied to materials in some but not all instructional areas.	0	4	3	6
D. Criteria have been adopted and the selection and evaluation of existing and new district instructional materials in all curriculum area is underway.	3	2	2	7
E. Affirmative action is in evidence.	2	6	3	2
F. Does not apply.	0	1	0	0

Scale Item Correlations (Yule's Q)

	E	D	C	B	A
E.	1.0000	-0.0526	0.0411	0.8182	-0.3636
D.	-0.0526	1.0000	0.2727	-1.0000	-0.8425
C.	0.0411	-0.2727	1.0000	-1.0000	-0.5556
B.	0.8182	-1.0000	-1.0000	1.0000	-1.0000
A.	-0.3636	-0.8425	-0.5556	-1.0000	1.0000

5. What has the district done to ensure that all students have equitable opportunities to participate in extracurricular clubs (including service organizations, student government, dramatics/forensics activities, choral groups, pre-professional clubs and recreational clubs)?

RESPONSES	Frequencies			
	Pre-Test		Post-Test	
	Control	Exper.	Control	Exper.
A. District has not undertaken a thorough study of bias in student access to extracurricular clubs.	6	11	7	8
B. District has reviewed student handbooks, regulations and descriptions of extracurricular clubs and has eliminated biases in language and requirements.	4	8	7	6
C. District has collected and analyzed data on gender patterns of student participation in extracurricular clubs and has identified major disparities.	0	4	0	2
D. District has further investigated extracurricular clubs with gender disparities in student participation and has taken positive steps to eliminate those disparities.	2	3	1	6
E. Affirmative action is in evidence.	4	3	2	3
F. Does not apply.	2	1	0	1

Scale Item Correlations (Yule's Q)

	E	D	C	B	A
E.	1.0000	0.3171	0.4000	0.4483	-0.9014
D.	0.3171	1.0000	0.6000	-0.3953	-0.8000
C.	0.4000	0.6000	1.0000	0.1333	0.0000
B.	0.4483	-0.3953	0.1333	1.0000	-0.2500
A.	-0.9014	-0.8000	0.0000	-0.2500	1.0000

9. Has the district taken steps to ensure that all student activities programs such as spirit groups, dances, homecoming ceremonies, etc., are free from gender bias?

RESPONSES	Frequencies			
	Pre-Test		Post-Test	
	Control	Exper.	Control	Exper.
A. District has not undertaken a serious study of gender bias in student activities programs.	8	13	7	5
B. District has reviewed and analyzed the participation in and the content of all student activities (including school spirit groups, school social events, dances, rituals, homecoming ceremonies, mother-daughter/father-son banquets, etc.) and has identified areas of non-compliance with Title IX.	2	[illegible]	4	5
C. District has taken steps to eliminate gender bias in student activities programs.	1	3	5	11
D. District has taken steps to increase student involvement in all student activity programs.	1	6	1	5
E. Affirmative action is in evidence.	3	3	3	3
F. Does not apply.	1	0	0	0

Scale Item Correlations (Yule's Q)

	E	D	C	B	A
E.	1.0000	0.1209	-0.0400	-0.1707	-1.0000
D.	0.1209	1.0000	0.0909	-0.1089	-0.2973
C.	-0.0400	0.0909	1.0000	0.8881	-0.8519
B.	-0.1707	-0.1089	0.8881	1.0000	-0.7838
A.	-1.0000	-0.2973	-0.8519	-0.7838	1.0000

10. Has the district taken steps to ensure that all honors and scholarships are free of gender bias?

RESPONSES	Frequencies			
	Pre-Test		Post-Test	
	Control	Exper.	Control	Exper.
A. District has not undertaken a serious study of gender bias in student activities programs.	10	14	4	4
B. District has reviewed all written literature, descriptive material and regulations pertaining to honors and scholarships, and has removed all biased requirements and language.	2	4	4	6
C. District has collected and analyzed data on the distribution of honors and scholarships, and has identified any gender disparities.	1	1	1	2
D. District has further investigated procedures used to award honors and scholarships, and has taken positive steps to eliminate gender disparities in the distribution of awards.	3	6	3	10
E. Affirmative action is in evidence.	4	6	5	7
F. Does not apply.	0	0	0	0

Scale Item Correlations (Yule's Q)

	E	D	C	B	A
E.	1.0000	0.1111	0.3043	-0.2800	-0.8148
D.	0.1111	1.0000	0.7436	0.3333	-1.0000
C.	0.3043	0.7436	1.0000	1.0000	-1.0000
B.	-0.2800	0.3333	1.0000	1.0000	-1.0000
A.	-0.8148	-1.0000	-1.0000	-1.0000	1.0000

11. Has the district taken steps to ensure that its counseling programs are free from gender biases?

RESPONSES	Frequencies			
	Pre-Test		Post-Test	
	Control	Exper.	Control	Exper.
A. District has not undertaken a serious study of gender biases in its counseling and guidance program and practices.	7	13	7	9
B. District has reviewed all written counseling materials, counseling procedures and testing materials to identify gender biases and has removed or altered biased materials, procedures or tests.	1	5	5	2
C. District has collected and analyzed data on biases in counseling practices (e.g., by reviewing comments in student cum records for sexist statements, by analyzing counselor records on frequency, nature and disposition of their counseling contacts with students, etc.) and has identified problem areas in the counseling program.	3	2	0	2
D. District has taken positive steps to eliminate gender biases in counseling programs and practices (e.g., has conducted inservice training for school personnel based on identification of problem areas in "C" above).	3	4	0	6
E. Affirmative action is in evidence.	2	5	1	4
F. Does not apply.	1	1	2	4

Scale Item Correlations (Yule's Q)

	E	D	C	B	A
E.	1.0000	0.8462	0.6000	0.2308	-0.8182
D.	0.8462	1.0000	0.5200	-0.4400	-0.8667
C.	0.6000	0.5200	1.0000	0.5200	-1.0000
B.	0.2308	-0.4400	0.5200	1.0000	-0.8667
A.	-0.8182	-0.8667	-1.0000	-0.8667	1.0000

12. Has the district taken steps to ensure that its career guidance centers and job placement services are free of gender bias?

RESPONSES		Frequencies			
		Pre-Test		Post-Test	
		Control	Exper.	Control	Exper.
A.	District has not undertaken a serious study of gender bias in its career guidance centers.	5	13	6	5
B.	District has reviewed all materials regarding career guidance, career education and student work programs.	0	5	4	4
C.	District has studied the policies and procedures used in its career guidance and student work programs and has identified areas of gender bias.	2	6	0	5
D.	District has eliminated more subtle areas of gender bias (such as role modelling of guest speakers and the maintenance of male and female employment lists) in its career guidance and student work programs and has eliminated other gender biases from this sphere of school activity.	4	0	0	6
E.	Affirmative action is in evidence.	4	2	3	2
F.	Does not apply.	2	2	3	5

Scale Item Correlations (Yule's Q)

	E	D	C	B	A
E.	1.0000	0.8286	0.1667	0.5522	-0.7647
D.	0.8286	1.0000	0.3043	0.3684	-1.0000
C.	0.1667	0.3043	1.0000	0.3684	-1.0000
B.	0.5522	0.3684	0.3684	1.0000	-0.8605
A.	-0.7647	-1.0000	-1.0000	-0.8605	1.0000

13. Has the district taken steps to ensure that testing materials are free of gender?

RESPONSES	Frequencies			
	Pre-Test		Post-Test	
	Control	Exper.	Control	Exper.
A. District has not undertaken a serious study of gender bias in the testing materials it uses.	8	16	9	11
B. District has conducted a preliminary review of all testing materials and has identified testing materials which reflect gender bias.	1	8	5	1
C. District has reviewed current literature regarding gender bias in testing materials, has reviewed non-biased testing materials, and has developed strategies for providing testing which does not reflect gender bias.	1	2	1	2
D. District has eliminated blatant gender biased materials and has begun to implement strategies identified in "C" (e.g., purchased new materials, provided inservice training to all counselors, requested national testing services to alter reporting methods).	2	1	0	7
E. Affirmative action is in evidence.	1	3	1	0
F. Does not apply.	1	0	1	1

Scale Item Correlations (Yule's Q)

	E	D	C	B	A
E.	1.0000	99.0000	99.0000	99.0000	99.0000
D.	99.0000	1.0000	0.2727	-1.0000	-1.0000
C.	99.0000	0.2727	1.0000	-1.0000	-1.0000
B.	99.0000	-1.0000	-1.0000	1.0000	-0.2500
A.	99.0000	-1.0000	-1.0000	-0.2500	1.0000

14. Has the district taken steps to ensure that its policies and practices pertaining to married and pregnant students are equitable and free of gender bias?

RESPONSES		Frequencies			
		Pre-Test		Post-Test	
		Control	Exper.	Control	Exper.
A.	District has not undertaken a review of policies and practices in these areas.	4	7	4	5
B.	District has reviewed student marital and pregnancy policies and has identified any gender-biased problem areas (e.g., policies that require a married or pregnant student to choose between a special program or leaving school, policies that treat pregnancy differently than other temporary disabilities, etc.)	0	8	4	3
C.	District has developed plans for eliminating inequities identified in the policy review.	1	3	0	2
D.	District has taken steps to eliminate gender biases in student marital and pregnancy policies and practices, and has modified policies to effect compliance with Title IX (e.g. has made equiable all rules on student marital status, has guaranteed access of pregnant students to school services, activities and programs, has medical certification requirements for pregnant students compatible with requirements of students with other temporary disabilities, has made childcare and pre-natal care instruction available to students of both sexes, etc.	6	5	2	8
E.	Affirmative action is in evidence.	3	5	2	2
F.	Does not apply.	2	2	2	2

Scale Item Correlations (Yule's Q)

	E	D	C	B	A
E.	1.0000	0.3913	0.5000	-0.0714	-0.4694
D.	0.3913	1.0000	0.1667	-0.1429	-1.0000
C.	0.5000	0.1667	1.0000	0.4167	-1.0000
B.	-0.0714	-0.1429	0.4167	1.0000	-1.0000
A.	-0.4694	-1.0000	-1.0000	-1.0000	1.0000

15. Has the district taken steps to ensure that rules of behavior, standards of enforcement and levels of punishment are equitable and free from gender biases?

RESPONSES	Frequencies			
	Pre-Test		Post-Test	
	Control	Exper.	Control	Exper.
A. District has not undertaken serious study of gender biases in its student discipline policies and practices.	6	12	6	3
B. District is in the process of reviewing written policies and procedures pertaining to student regulations and discipline and has eliminated all obvious gender biases from these materials (e.g., different grade-based eligibility requirements for participation in extracurricular activities, etc.)	1	3	2	3
C. District has completed review of written discipline policies and is in the process of collecting and analyzing data on gender patterns in school discipline practices, and is identifying any problem areas (e.g., by reviewing incidence, nature and disposition of disciplinary referrals).	2	3	1	2
D. District has completed review of student discipline and has taken positive programmatic steps to eliminate gender biases from student discipline policies, standards, and practices.	6	6	3	14
E. Affirmative action is in evidence.	3	4	2	2
F. Does not apply.	0	2	0	0

Scale Item Correlations (Yule's Q)

	E	D	C	B	A
E.	1.0000	-0.6279	0.6923	0.2500	-1.0000
D.	-0.6279	1.0000	0.2727	-0.3333	-0.7500
C.	0.6923	0.2727	1.0000	0.5294	-1.0000
B.	0.2500	-0.3333	0.5294	1.0000	-0.2308
A.	-1.0000	-0.7500	-1.0000	-0.2308	1.0000

16. Are insurance and health benefits for students free from gender bias?

RESPONSES		Frequencies			
		Pre-Test		Post-Test	
		Control	Exper.	Control	Exper.
A.	District has not reviewed or analyzed its student insurance and health benefit policies and procedures for gender bias.	5	9	1	1
B.	District has reviewed and analyzed its student insurance and health benefit policies and procedures and has identified any gender biases (e.g., total health care benefits for males/exemption of gynecological or maternal health benefits for females, etc.)	2	1	3	2
C.	District has proposed to insurance companies means of eliminating any biases identified in its student insurance and health benefit policies, or has proposed alternatives to the existing policies.	0	1	0	2
D.	District has eliminated gender biases from its student insurance and health benefit policies and practices (or has certified that biases do not exist).	3	7	7	14
E.	Affirmative action is in evidence.	2	0	2	3
F.	Does not apply.	3	6	1	1

Scale Item Correlations (Yule's Q)

	E	D	C	B	A
E.	1.0000	-0.8168	0.3103	-0.0588	1.0000
D.	-0.8168	1.0000	1.0000	-0.7273	-1.0000
C.	0.3103	1.0000	1.0000	0.6552	-1.0000
B.	-0.0588	-0.7273	0.6552	1.0000	-1.0000
A.	1.0000	-1.0000	-1.0000	-1.0000	1.0000

17. Has the district reviewed all course descriptions and written materials pertaining to the P.E. program to ensure that these are free from gender bias and compatible with Title IX?

RESPONSES		Frequencies			
		Pre-Test		Post-Test	
		Control	Exper.	Control	Exper.
A.	District has not yet reviewed the course descriptions and written literature pertaining to the P.E. program for gender bias problems.	4	6	3	1
B.	District has reviewed course descriptions and descriptive literature and has removed all obvious barriers to student pursuit of nontraditional P.E. activities (including biased use of language, sextyped course titles, etc.)	4	11	8	7
C.	District has further analyzed its course descriptions and descriptive literature, has identified any prerequisites, performance standards, guidelines, and criteria for skills measurement that have an adverse effect on student pursuit of non-traditional P.E. activities.	3	3	1	5
D.	District has modified all P.E. prerequisites or criteria that have an adverse effect on student pursuit of non-traditional P.E. activities.	4	5	1	12
E.	Affirmative action is in evidence.	2	5	2	3
F.	Does not apply.	0	1	1	0

Scale Item Correlations (Yule's Q)

	E	D	C	B	A
E.	1.0000	0.2903	0.7600	-0.2903	-1.0000
D.	0.2903	1.0000	0.1200	-0.2847	-1.0000
C.	0.7600	0.1200	1.0000	0.2121	-1.0000
B.	-0.2903	-0.2847	0.2121	1.0000	-1.0000
A.	-1.0000	-1.0000	-1.0000	-1.0000	1.0000

18. Has the district taken steps to ensure that its P.E. requirements do not discriminate in the way they provide student access to physical education courses?

RESPONSES	Frequencies			
	Pre-Test		Post-Test	
	Control	Exper.	Control	Exper.
A. District has not yet investigated its P.E. curriculum to determine obstacles to compliance with Title IX.	6	8	5	1
B. District has reviewed the P.E. curriculum and has identified problem areas.	2	9	6	6
C. Suggested modifications either have been drafted and are currently pending, or are in process of being drafted.	4	4	2	6
D. District has modified P.E. requirements to ensure that P.E. objectives and requirements are the same for males and females and has disseminated them thoroughly to students and staff.	5	7	3	10
E. Affirmative action is in evidence.	2	4	2	3
F. Does not apply.	0	1	0	0

Scale Item Correlations (Yule's Q)

	E	D	C	B	A
E.	1.0000	0.3548	-0.3548	-0.2727	-1.0000
D.	0.3548	1.0000	-0.7073	-0.1765	-1.0000
C.	-0.3548	-0.7073	1.0000	0.9021	-1.0000
B.	-0.2727	-0.1765	0.9021	1.0000	-1.0000
A.	-1.0000	-1.0000	-1.0000	-1.0000	1.0000